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ABSTRACT

As of 1993, Nevada had no systems for statewide automation and transfer of student records. This guide book presents findings of a collaborative study, conducted by the Nevada Department of Education and local school districts, that explored the need for and feasibility of developing a statewide system for automating and transferring student records. Data were gathered through group interviews with a total of 127 individuals: local school board members, district superintendents, principals, and school personnel from 15 districts. Two surveys were also distributed. A data elements and training survey identified how school districts used information and to whom they distributed it, and determined staffs' technological skills. A hardware and software inventory of district superintendents and staff determined the amount and number of current hardware and software systems used to manage and transfer student information. The findings demonstrated the need to establish a statewide system for exchanging data; to develop standardized procedures for collecting, managing, and reporting data; and to provide technical training to district and school staff. The guide book contains the study team's recommendations and plan for implementation. Five tables and eight figures are included. Appendices contain copies of the surveys, a projected timeline, sample configuration models, implementation costs, and a training matrix. (LMI)

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STATEWIDE MANAGEMENT OF AUTOMATED RECORD TRANSFER

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A Plan to Automate and Transfer Student Records Statewide

EA028829

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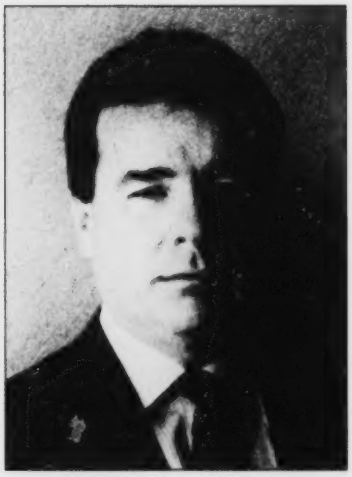

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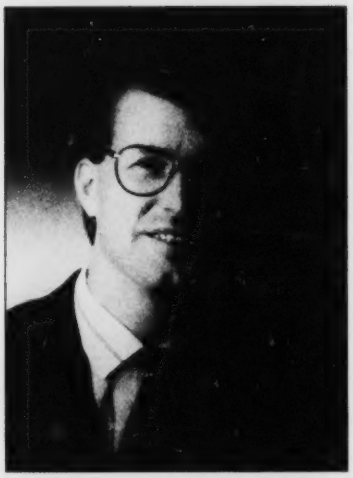

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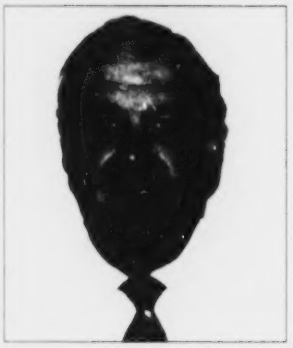

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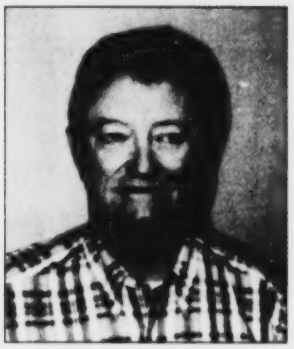

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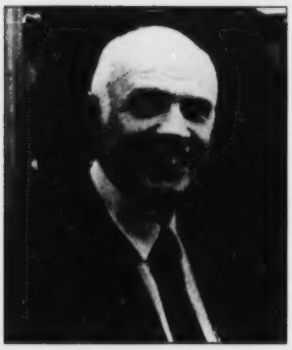

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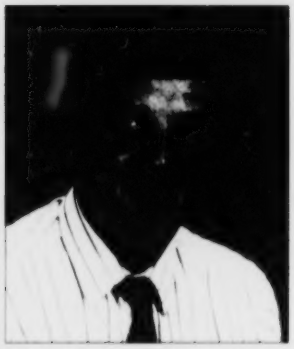

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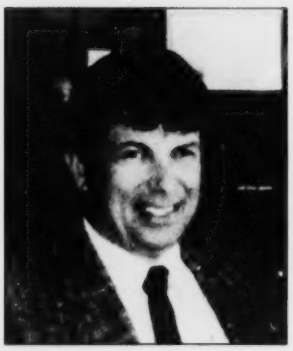

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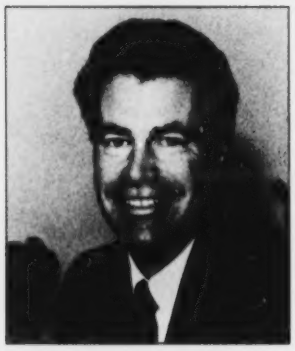

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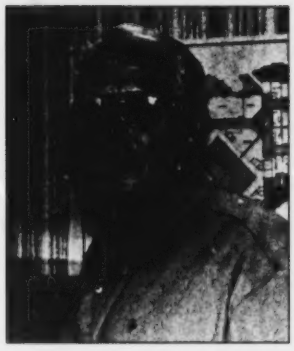

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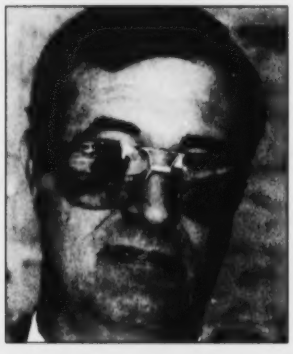

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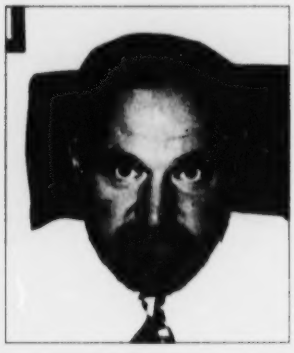

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FOREWORD

Our primary goal as educators is to ensure that school children receive the education they need to meet the many and complex demands of the future. In order to meet these challenges the State Department of Education, local superintendents, parents, and the public need access to accurate and timely student record data. The goals for the United States Department of Education and the Nevada State Board of Education emphasize the improvement of data collection/analysis systems to provide decision makers and the public with useful and meaningful information. Today's technology provides us with the tools to better manage data and make truly informed administrative decisions which affect the education of our kids.

The described study represents the first collaborative endeavor between the Department and the local school district superintendents to establish a plan to automate and transfer student records statewide. A substantial amount of department and district staff time and effort was devoted to this worthwhile project. I applaud the innovative and progressive thinking and invaluable efforts of the local superintendents and their staff and others who worked on this project. This plan will establish a firm foundation that will supply educational decision makers at all levels with a wealth of needed information and set in place the system of reporting student information for the next century. Our schools and students can wait no longer.

Dr. Eugene T. Paslov
Superintendent of Public Instruction in Nevada

The future for Nevada's children is here today. It is a future in which the basics are reading, writing, arithmetic, and information technology. In addition to traditional basic skills, students today need to know how to use technology to find the information they need to learn, to work, and to make informed decisions in their daily lives.

This project provides the infrastructure that is required to connect school districts to the information highway, the first step in bringing technology into the classroom. It also provides districts with the fundamental tools that they need to better plan for and meet students' individual learning needs. It will allow schools to begin to evaluate the long-term benefits of programs, develop personalized educational plans for students, and involve parents and students in educational decision making.

An investment in a better education for Nevada's students today means a better Nevada for all of us both today and tomorrow.

Dr. Mary Nebgen
Superintendent Washoe County School District

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EXECUTIVE SUMMARY

Most of the states in the nation (e.g., Florida, West Virginia, New York, Utah, California) have either already implemented systems for the statewide automation and transfer of student records or are currently involved in projects to implement these systems. Currently, none of the Nevada school districts electronically transfer data to other school districts and little is transferred to the Nevada Department of Education (NDE). Compared to other states, Nevada is in an excellent position to simply and cost-effectively implement statewide automation and transfers. Nevada has the second lowest number of school districts in the nation and over 85% percent of Nevada's student population is enrolled in school districts that already have fairly sophisticated computer systems. Note, however, that a number of school districts have no computer systems and the existing systems are in need of upgrades of hardware and software to accommodate the demands of statewide transfer.

This study is the first cooperative endeavor between the NDE and local school districts to look at the general need for and feasibility of automating and transferring student records statewide. The superintendents generated a mission statement and objectives for the study and appointed key individuals to conduct it.

Study Design and Results

The study team used a problem solving process that was designed by International Business Machines (IBM). Group interviews were conducted and two written surveys were administered. Raw and summary data from extensive assessments that were recently conducted independently by both the Clark County and Washoe County School Districts agreed closely with the findings of this study, and were incorporated wherever possible.

Approximately 130 individuals representing school sites, district offices, the Nevada Department of Education, and other agencies associated with education participated in the study. Highlights of the results are as follows:

Group Interviews

Problems

- By far the greatest problem noted was the lack of timely record transfer. Lack of student placement data was reported to cause students serious problems related to delayed, inadequate, and inappropriate placement into educational, support, and special needs services.
- Staff at all levels, regardless of occupation, felt hampered by the fact that their decisions affecting students were often made without the benefit of any data or any sound data.
- Lack of data exchange capability inside and outside districts was found to be a critical problem. The lack of a districtwide student information system was the second most frequently noted problem. Staff simply do not have access to the tools that are needed to provide truly efficient, appropriate, and timely service to assist students.

- Staff in all positions are overly burdened with manual recordkeeping, redundant state and federal data requests, and are receiving poor quality (inaccurate, inconsistent, and untimely) data.

Suggestions and Priorities

- A common thread running through all the interviews was that individuals believe that the process of collecting, reporting, and analyzing information could, and should, be made more efficient and accurate by automated systems.
- By far the most frequent suggestion and top priority was to establish the capacity to exchange data statewide inside and outside of school districts between pre-authorized trading entities. Interviewees recognized the critical need for timely and accurate information in order to serve students effectively.
- Associated suggestions and priorities were acquiring systems compatibility, working cooperatively to develop an in-depth data exchange plan, garnering adequate funding sources, developing districtwide systems, establishing electronic communications, and developing a statewide database of student information.
- Standardizing the data collection, management, reporting and transcript processes and formats were strongly suggested and should be considered a priority.
- Increasing training and awareness in the use of computer technology, providing confidentiality safeguards, maintenance of local control by school districts, and increasing public accountability were also addressed.

Benefits

- A primary benefit of timely access to student placement information will be to insure that students are receiving adequate and appropriate educational, support, and special needs services. Among other functions, such a statewide system would allow school districts to send and receive electronic transcripts.
- Statewide automation and transfer would allow the ready and convenient access of student information for legislators and school, district, and state administrators, as well as state and local school boards. This would enable each to make proactive rather than reactive educational and administrative decisions. The timely and accurate nature of such data will greatly improve the soundness of these critical decisions.
- Every minute freed up from record keeping directly benefits the education that our students receive. Teachers noted that at least half an hour per day could be redirected to increasing contact time with students and improving instruction if they had access to an automated student record information system. Principals, counselors, registrars, and attendance clerks indicated that they could redirect one hour per day from record keeping to service development and improvement activities. Theoretically, millions of dollars worth of services could be redirected statewide if student records were automated and transferred statewide.

- Such a system would provide backbone technology upon which teachers and students can access the growing and endless number of statewide, nationwide, and international networks for a wealth of curriculum and educational information directly from the classroom.
- Electronic mail, which is the most accurate, efficient, and timely method of communication, would be a by-product of such a system for all schools and district offices in Nevada.
- Such a system would streamline overly burdensome federal and state report requests, drastically improve the quality of the data that is received, and improve the security of student data that is currently handled manually.

Hardware and Software Survey

- Four school districts have extensive local area networks (LANs)/ Wide Area Networks (WANs) and/or mini or main-frame presence. Seven districts have some LANs/WANs or a high percentage of desktop units. Six have either limited technology that is outdated, or no technology.
- Eleven of the school district offices are not connected to any of the schools within their district.
- A substantial percentage (67.6%) of schools statewide are currently connected to their district offices. Over 93% of the schools in Clark, Washoe, Douglas, and Storey are connected to district offices. Five districts do not have any student information system software. Columbia, Mac School, and SASI are the most commonly used student information systems.
- Approximately 24% of the schools statewide manage student record information manually and have no access to automated student information systems.
- Approximately 38% of the schools have full student information system packages. Complete packages are available in all or almost all of the schools in Washoe, Douglas, Eureka, Lyon, and Storey; another 38% have partial packages.
- Approximately 85.8% of the installed workstations are personal computers/dumb terminals and the remaining workstations are Apple/Macintosh computers.

Data Elements and Training Survey

- All of the 56 data elements presented in the survey were considered important by at least 29% of the individuals who were interviewed.
- Virtually all of the data elements are considered important by the Clark and Washoe County School Districts.
- Of the types of data elements, enrollment, demographic, and student achievement information were considered most important.

- Principals, registration staff, and counselors expressed the greatest need for student information.
- District offices or federal/state educational agencies receive most of the distributed data regarding these data elements.
- Training in the use of computer applications and technology is of paramount importance to users. For example, although 52% of the respondents indicated that they have access to a student information system, only 23% consider themselves proficient at using their systems. In fact, sixty-seven percent of the respondents expressed a need for training in the use of his/her student information system. In addition, although 23% of the participants have access to electronic mail, only 6% consider themselves proficient at its use.
- Seventy-six percent of the respondents considered electronic mail and 70% considered networks to be important in their jobs.

Recommendations/ Implementation Plan

Districtwide and NDE Systems

The recommendations and plan assume that each district as well as the NDE shall maintain autonomy: 1) student data will be owned and controlled by the originating school district and 2) each school district and the NDE will maintain exclusive control of the selection of hardware and software for their respective sites.

The school and district site models were designed based upon the study team's definition of the number of computer access workstations needed by administrators, teachers, and staff to maintain a student information management system. The cost to implement these models is approximately $16.75 million, and will supply workstations, networking and electronic mail capacity, and student information software for school district offices and schools. At a cost of approximately $35,000, the NDE model provides one workstation for each branch that collects, manages, analyzes, and/or reports student records and the same general student information management and networking capacity as described in the other models. For every dollar spent on technology, it is recommended that a minimum of an additional thirty cents be spent on training and technical support.

Statewide System for Automation and Transfer of Student Records

The team concluded that student data will be released on a periodic, rather than a continuous basis, via dial-up point-to-point transmission. Statewide use of a standard transmission protocol, such as Kermit, removes the issue of compatibility across hardware and software platforms.

Further, it was concluded that student data will be transmitted in the standard ASCII delimited Standardization of Postsecondary Education Electronic Data Exchange/Exchange of Permanent Records Electronically for Students and Schools (SPEEDE/ExPRESS) format, since: 1) ASCII is

common to all computer platforms and all student information systems used within the state are capable of exporting and importing delimited ASCII files; 2) SPEEDE/ExPRESS is a file layout protocol that is nationally recognized as the educational standard for electronic transmission of student record information; and 3) Electronic Data Interchange (EDI) software can be purchased to translate any ASCII delimited files to and from the SPEEDE/ExPRESS file format.

Communication Tools

To defray long distance telephone costs associated with dial-up point-to-point transmission, it is recommended that users establish accounts on the planned State of Nevada Enterprise Information Delivery System, which is intended as an extensive, managed utility network that will provide a consolidated transport facility for all government (state, county, and local) entities within the state and to be most cost-effective. If this delivery system cannot meet the State's requirements, the Internet can be used to facilitate electronic mail. Due to security issues, use of the Internet is not recommended for transport of student record information, as it is an unmanaged network.

Pre-established communications software, 9600 baud modems, and associated hardware, which can all be purchased at fairly nominal cost, are all requirements of the system.

Electronic Reporting

5

NDE responsibilities include: 1) conducting a thorough and objective needs assessment to determine the data requirements of users of student record information and 2) developing a draft document with procedures and deadlines that are designed to eliminate redundancy in NDE data requests and provide districts with a streamlined approach to data submission and will insure the consistency of reported data.

The local school districts and the NDE will nominate individuals to serve on a committee to: 1) provide guidelines and documentation to assist districts in reporting student information electronically; 2) establish an official statewide electronic data reporting handbook that includes a data dictionary of reported data elements, reporting procedures, and reporting deadlines; 3) evaluation and support the electronic reporting process; and 4) establish a training plan and schedule for individuals who report data electronically.

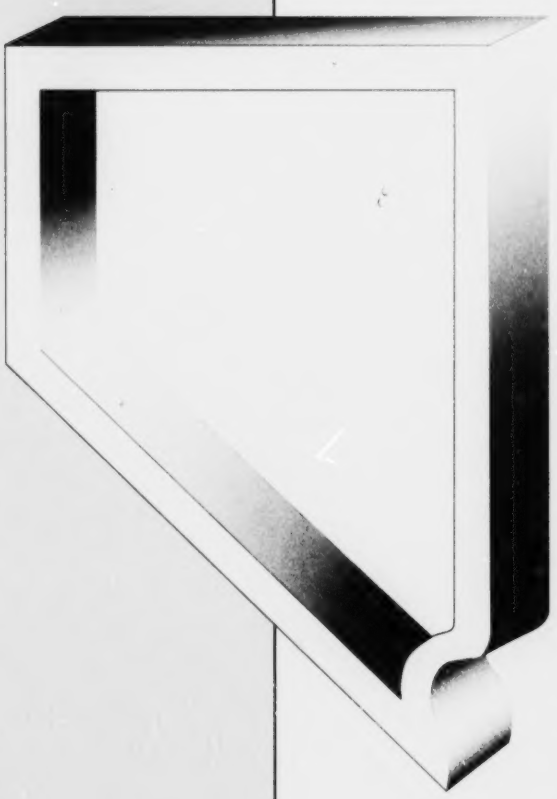
Other

The NDE shall work cooperatively with local districts to develop plans to provide technical support and training to staff, confidentiality and security safeguards, electronic transcripts, a student information directory, as well as a funding plan.

INTRODUCTION

All of the states in the nation have been actively working on projects to automate and transfer student record information electronically. The greatest efforts have been focused upon transfer of this information within school districts. In addition, efforts towards statewide and inter-state transfer of education record information have been successful and expanding. Virtually all states have either developed (i.e., Florida, West Virginia, New York), are in the process of establishing (i.e., California, Utah, Montana, Oregon, Washington, Wisconsin), or are studying the feasibility of systems to transfer student record information statewide. Many states including Florida, California, New York, Texas, Arkansas, Washington, Oregon, with the support of the Council of Chief State School Officers and the National Center for Education Statistics have been working on projects to transfer student transcript information electronically between states.

Primary benefits of electronic transfer of student information include: 1) immediate access to student data for legislative and administrative personnel to make informed decisions and gauge progress towards local, state, and/or national goals; 2) improved quality (consistency, compatibility, completeness, and accuracy) and timeliness of reported data; 3) improved efficiency and reduced redundancy in reporting data; and 4) capacity to send and receive transcript data electronically to insure accurate and immediate placement of students.



Currently, none of the school districts in Nevada exchange data electronically with any other school districts and few send electronic data to the Nevada Department of Education (NDE). Nevada has 17 school districts, in which approximately 240,000 K-12 students are served. Approximately 80% of the students are enrolled in two school districts (Clark and Washoe County). These two school districts have fairly sophisticated on-line student information systems and data processing staff to support those systems. Most of the schools in the Clark County School District (CCSD) are currently connected to the district office; however, this system has been in place since 1978 and much of the equipment and software needs to be updated. The Washoe County School District (WCSD) is currently in the process of installing comprehensive student information and business systems.

The level of computer technology devoted to student records management in the balance of the state varies greatly. Some school districts have virtually no computer hardware or software to manage student records while other districts, like Elko and Lyon County, are making progress in extensive automation projects. Elko County School District is in the second phase of their on-line student and financial information systems project and Lyon County School District is in the process of connecting schools to each other and the district office. All of the schools in Lyon County have a comprehensive student information system.

The study described in this report represents the first collaborative endeavor between the NDE and the local school districts to address the issues related to electronic data interchange. Specifically, the

state and local school district superintendents appointed key individuals to a study team to evaluate the need for and general feasibility of automating and transferring student records statewide.

The study team members were selected based on their educational and/or technical experience and on their ability to express the administrative interests and concerns of their school district or agency. The study team was composed of 19 individuals who represented a broad spectrum of educational expertise, responsibilities, and concerns (e.g., assistant/area superintendents, elementary/middle/high school principals, curriculum coordinators, and student records, district/state department of information systems, and state educational research staff). Most of the districts throughout the state were represented and the larger districts were represented by two to five individuals. One individual was assigned from the NDE and two were contracted from the Nevada Department of Information Services (DIS). The team members spent a substantial amount of time and effort working on this activity.

The state and local school district superintendents also acted as the study's executive planning committee as they developed the following mission statement and objectives which provided direction and guidance to the study team:

Mission Statement

Develop a comprehensive statewide system for the automation and transfer of student records which meets the current and future needs of local school districts and the Nevada Department of Education. The system must be developed by involving individuals who represent all future designated appropriate user groups while balancing the potential benefits with concerns such as confidentiality, security, and technological compatibility. This information system will be two-way and accessible to all appropriate parties.

Objectives

1. Establish and maintain a user-friendly cost-effective system of accessing and transferring critical student-level information within and among schools and school districts and among school districts and the Nevada Department of Education.
2. Develop and implement technology guidelines, standards, and procedures for communication, data collection, and access to the system.
3. Establish a statewide data dictionary.
4. Design and implement a statewide electronic communications network.
5. Develop and implement plans to provide ongoing training to promote technological awareness and competence of users.
6. Determine what information is to be transferred.
7. Identify appropriate funding sources.

"Our children are our most important asset."

Administrator

STUDY DESIGN

International Business Machines (IBM) was commissioned to facilitate the study activities using the IBM Application Transfer Study (ATS) methodology. The ATS process uses a team approach to problem solving and has been used as a strategic planning tool by educational entities in dozens of other states to achieve similar project goals. IBM provided this assistance as part of the company's EduQuest services and was offered at their own expense. In addition, DIS was contracted to provide technical assistance related to system/network design and software/hardware estimates for this study. The project was financially supported by a grant from the United States Department of Education, National Center for Education Statistics.

Study team members met for a total of 25 days from July, 1993 to May, 1994. Their responsibilities included selecting the study design, developing surveys and interview questions, piloting the surveys and interview process, conducting interviews, analyzing and interpreting data, developing recommendations and an implementation plan, and writing the summary report.

Group interviews were conducted and two survey instruments (data elements and hardware/software inventory) were used in the study. Appendices A and B include a copy of the two questionnaires.

Group Interviews

The purpose of the interviews was to determine the needs of potential users of student information. The interviewees represented the full range of individuals who handle, use, or are concerned about student records. Interviewees from the local school districts included local school board members, district superintendents, assistant/area superintendents, principals, registrars, program specialists, data processing staff, teachers, counselors, student records staff, and clerks. Members of the Nevada State Board of Education, NDE directors and consultants, post-secondary staff, representatives from other state agencies, members of business & industry, and parents also were among those interviewed.

In determining the type and number of individuals to be interviewed the study team considered such issues as adequate and balanced representation from each district and each job classification. The local school district superintendents identified the specific individuals in their districts to be interviewed after they received notice of the number of individuals needed from each job classification.

Regional interviews were held in Elko, Carson City, and Las Vegas. Fifteen of the school districts participated in the interviews. The attendance rate for the participating districts was 92%

Each interview session took approximately 1 to 1.5 hours. On average, approximately 7 people were interviewed during each session and each person was asked the same set of questions. Participants were interviewed with others who held a similar job title or interest in student data.

Data Elements and Training Survey

Each scheduled interviewee was sent a data elements and training survey to complete and return to the study team at the time of his or her interview. This survey contained a comprehensive listing of data elements that are generally found in a student record or transcript. Approximately 60 student data elements covering the areas of student

personal characteristics and demographics, enrollment, attendance, academic performance, special programs participation, special needs status, family, residence, medical, and transportation were included. The interviewees were asked to indicate his or her use of that data element (whether the information was used, important, electronically managed, and/or needed but not available) and whether he or she distributed the information to any other source (state agency, federal agency, other agencies, district office, other school districts, and/or parents). The latter part of this survey focused on the level of skill the interviewee had and training that the interviewee might need in using computer technology. Responses to this written survey were recorded on scantron sheets, which were later analyzed by CCSD data processing staff.

The technological direction for student records information management for Washoe County School District (WCSD) has recently been determined. Since the passing of a school bond in September, 1992, this school district has aggressively been involved in a process to select automated student information and administrative systems. With the assistance of a systems integrator, Washoe has conducted an in-depth needs assessment which also included written surveys and group interviews. After a review of the procedures used and materials developed from the WCSD assessment, it was determined that Washoe County's assessment activities were closely related to and more detailed than those required by this project. Therefore, in order to avoid duplication of effort, a district response was formulated by those in charge of the WCSD assessment in lieu of individual responses to the interviews and the written data elements and training surveys.

Similarly, CCSD has recently conducted detailed needs assessments and, in fact, conducted a district ATS in 1990. The CCSD ATS activities were identical to this study and the questions were very similar. The main difference between the CCSD ATS and this study is that the CCSD ATS focused on a broader range of technologies. The study team reviewed the raw materials and written transcripts from the CCSD 1990 ATS and gleaned the information that was pertinent to automation and transfer of student records and incorporated the information into the results of this study. One districtwide response to the data elements survey was formulated by key CCSD staff members, who represented the areas of business & finance, curriculum & instruction, student accounting, data processing, and elementary education, and was submitted for analysis.

These CCSD staff members were assigned to this automation/transfer project and have been involved in every phase of this project.

10

Hardware and Software Survey

A hardware and software inventory survey was administered to determine the amount and type of hardware and software used to manage, manipulate, transfer, and report student record information that is currently available at district and school sites throughout the state. One survey was sent to each of the district superintendents and district staff gathered the requested information for the district office and the individual schools within their respective districts. All of the school districts responded to the survey. This information contributed to the cost analysis included in Appendix E.

RESULTS

Interviews

One hundred and twenty seven individuals were interviewed by the study team. A full spectrum of individuals, who represent the educational institutions and professions that are concerned with information regarding students and student achievement, were interviewed. School site (student records staff, principals, vice principals, teachers, and counselors) and district administration had the highest percentages of representation. Student records staff, with the highest single percentage, included individuals from the district or school sites who were directly involved in handling student records (e.g., transcript, registration, attendance, clerical, and reporting staff). District interviewees included superintendents, assistant/area superintendents, administrators, data processing staff, special programs (curriculum, occupational education, special education, nutrition, and testing) specialists, and federal and state reporting staff.

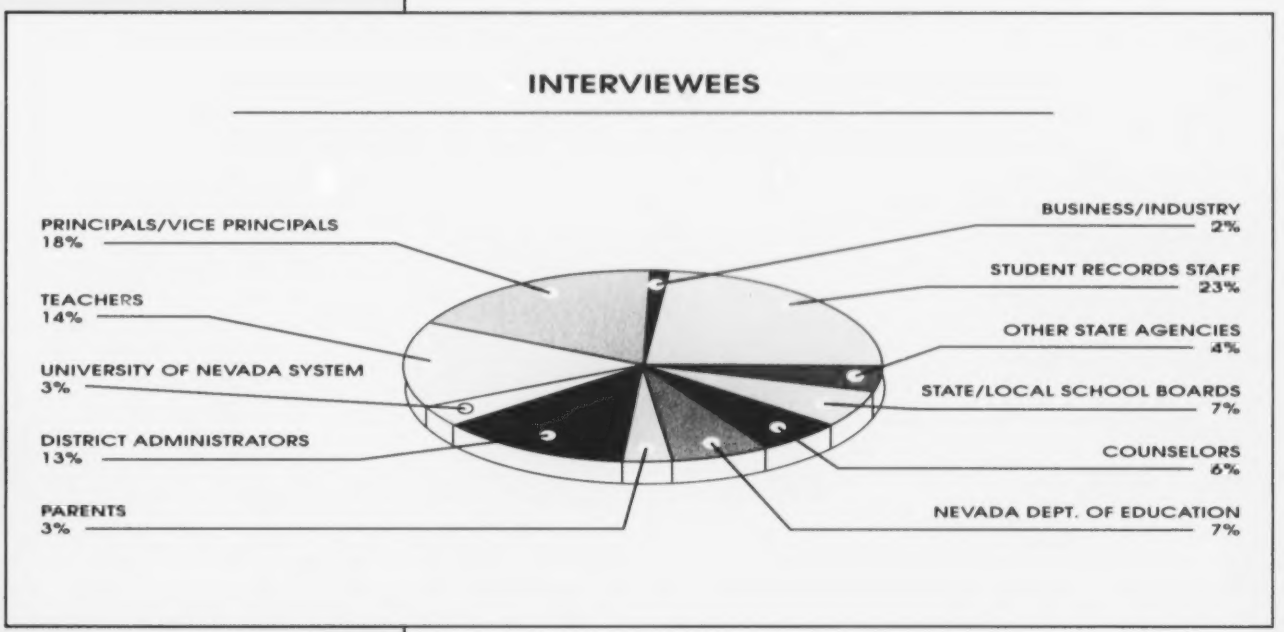


Figure 1. Percent and type of interviewees.

Other major education entities were also represented. Approximately 7% of the individuals interviewed serve on the State Board of Education or local school district boards. NDE directors and/or consultants from all of the Department's branches (planning, research, and evaluation, fiscal, special education, occupational education, elementary/secondary, and federal programs) participated. In addition, postsecondary interviewees included research staff from the Chancellor's Office and registrars from the universities and community colleges.

Other state agencies including the Legislative Council Bureau, Nevada Department of Human Resources, and Nevada Department of Employment Security provided input to this process, as did parents and individuals from business and industry.

The following sections contain detailed summaries of the responses to each of the interview questions. All school districts, except Clark and Washoe Counties participated in this interview process. Note that raw data from the Clark County School District assessment is incorporated in the following charts and descriptions and that a summary of the applicable Washoe County results is attached to each section.

Interview Question #1

What are your problems regarding the current methods for collecting, processing, and reporting student information?

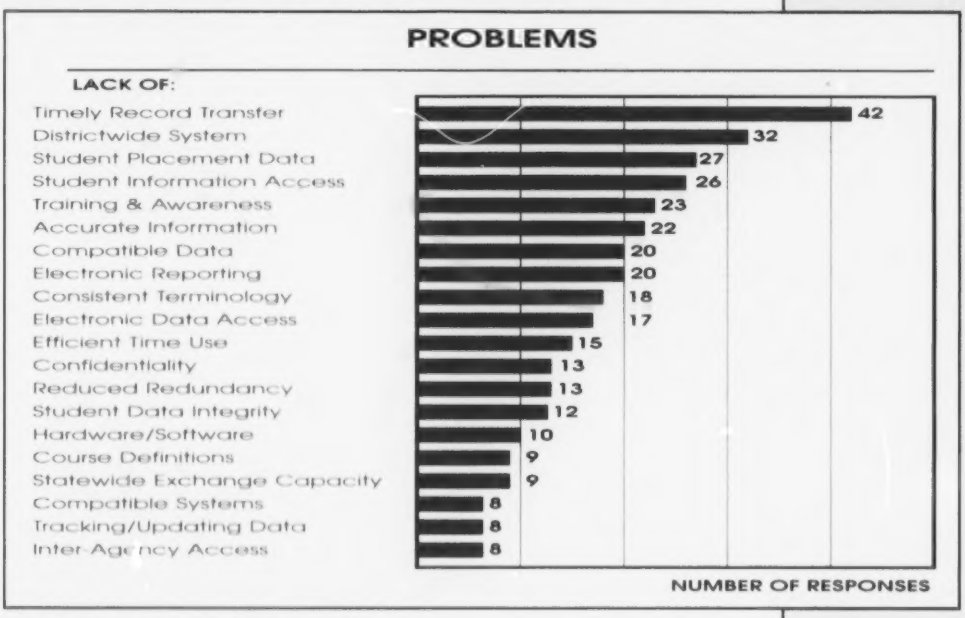


Figure 2. Number indicating specific problem areas.

Lack of timely access to student data was the problem that was noted most by interviewees, regardless of occupation. Other related issues that were noted by interviewees included lack of student placement information, which was the third most noted concern, electronic data access, and ability to track or update records. Lack of timely access to student placement data evoked the most emotionally charged responses from interviewees. Respondents noted this data is often six or more weeks late and the consequence is that many students are delayed enrollment in school, not receiving special services (e.g., special education, second language), and not receiving adequate or appropriate educational experiences. Frequently, special education records do not arrive in a timely manner and these students are placed in inappropriate courses that do not assist and may hinder their progress. Untimely access to transcript information also results in enrollment of students who have been suspended by other school districts, which is a violation of state regulations and introduces unnecessary danger to other students and staff.

The second most frequently noted problem was lack of districtwide student information systems. Interviewees also noted that the lack of a statewide system for data exchange and inter-agency data access were issues of concern.

Redundant data requests and lack of electronic data reporting were also mentioned as problems for individuals who are responsible for this function or who require student record information to make informed decisions. The lack of quality in the student data that interviewees receive is a major problem. Since manual collections are difficult and introduce human error, data is often incorrectly recorded or interpreted. Each time a different person handles a piece of information, that information may be accidentally changed. Also, given the same circumstances, different individuals may interpret information differently. For example, one teacher might consider a

student Hispanic, whereas, another might consider him or her to be Black. Specifically, lack of data accuracy, compatibility, consistency of terminology, and integrity were rated 4th, 5th, 7th, and 12th, respectively.

In addition, a number of interviewees noted that any system which automates or transfers student records must consider the issues of data confidentiality, compatibility of exchanging hardware and software, training, and support.

The problems noted above were also mentioned by the WCSD staff. In fact, the WCSD response included more detail. The following is the WCSD listing of problems with weights[1] associated:

	Weight
Lack of data exchange capability inside and outside district	10
Lack of ability to aggregate data	10
Lack of ad hoc reporting capacity	10
No funding for initial and on-going training	10
Redundancy of information required by the state	9
Reporting and paperwork is time consuming	8
Inability to longitudinally track students	8
Difficulty in tracking and updating student records/information	8
Manual reporting is archaic	8
Concerns for confidentiality and privacy safeguards	7
Lack of hardware and software access	7
Lack of districtwide systems	7
Insufficient information for student placement	7
Accuracy of information	6
Inability to get student records on time	5
Lack of access to automated data	5
Inconsistent and incorrect student records	5
Lack of common course definitions	5
Lack of statewide database	3
Inconsistent formats for student information/identification	3
Lack of common terminology	3

WCSD's greatest concerns involve the lack of data exchange capability inside and outside the district which would allow the district to make better administrative decisions. This limitation hinders the district's capacity to aggregate data, generate ad hoc reports, comply with state and federal data requests in a non-redundant and less cumbersome fashion, longitudinally track students, and update records quickly and effectively. WCSD noted a lack of hardware and software access to staff, a fully implemented districtwide system, and a statewide system as other specific problems of concern.

As in the other school districts, lack of access to data (insufficient data for student placement and untimely access to records) and poor quality (lack of accuracy, consistent and correct student records, common course definitions, consistent format for student information/identification, and common terminology) were also significant problems. In addition, WCSD noted that issues of confidentiality, funding, and training must be addressed.

[1] *Numbers are weighted from least to most significant. Ten respresents the most significant problems WCSD staff have with current methods of collecting, processing, and reporting student information.*

"The business of paperwork has no benefit but the business of education certainly does."

Administrator

"We need to spend more time educating and less time recordkeeping."

Administrator

Interview Question #2

What are your suggestions to eliminate or reduce those problems?

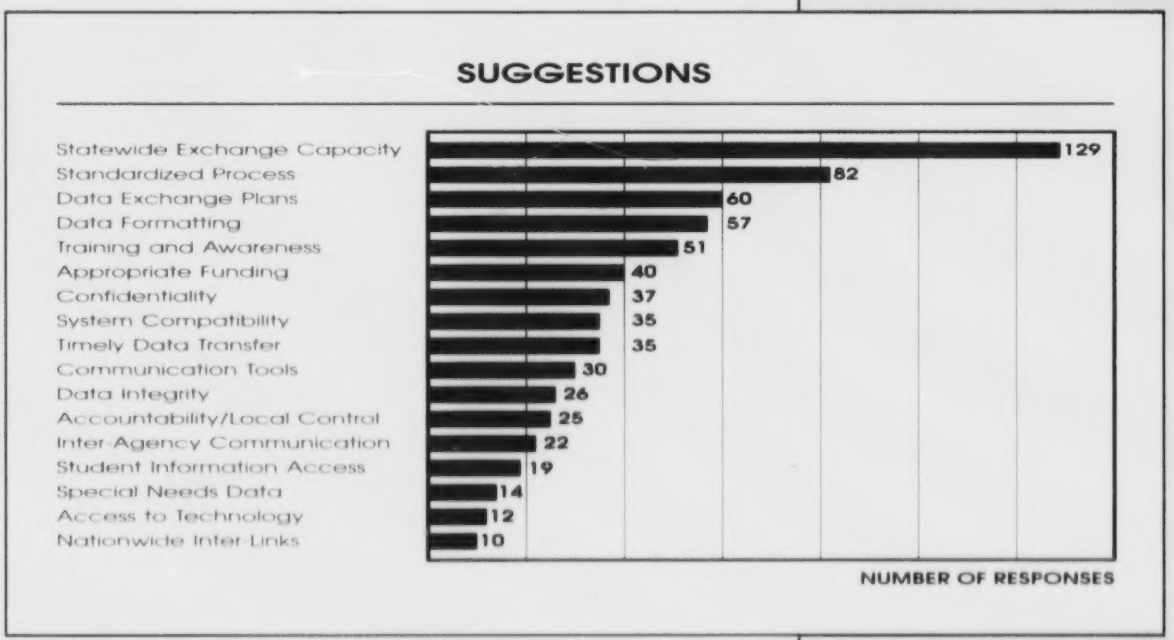


Figure 3. Number indicating specific suggestions.

The suggestions mainly focused upon acquiring the capability to exchange data electronically. By far the most frequent response was to establish the capability to exchange data statewide between pre-authorized trading entities. Note that interviewees were not referring to one specific on-line computer system that would operate statewide but to a general capacity to share information within and among school districts and the NDE. Developing plans for statewide data exchange, systems compatibility, appropriate funding, communications tools, inter-agency communication, and links to nationwide networks were mentioned as well.

Increasing the consistency of data and data integrity were suggested often. Standardizing the data collection, management, and reporting and transcript processes was the second most noted suggestion and standardizing these data formats was the fourth. Use of a consistent student identification and/or social security number was discussed and considered important by a significant number of interviewees. Administrators from two school districts and three post-secondary registrars noted that, in their experience, use of a social security number as a student identification was disputed by far less than one-percent of parents and/or students.

Respondents suggested that training and awareness be increased, confidentiality issues be addressed, local control of data be maintained, and public accountability be increased.

The solutions noted above were mentioned by the WCSD staff and the WCSD response provided some additional details. The following is the WCSD listing of solutions with weights associated:

	Weight
Acquire appropriate funding to enable computer systems to exchange data inside and outside districts	10
Provide on-line transfer of data	10
Provide ability to aggregate data	10
Provide capacity to generate ad hoc reports	10
Provide for computer systems statewide to offer common information interchange capacity	10
Provide funding for initial and on-going training	10
Provide communication tools (e.g., local area networks, e-mail, fax)	10
Provide ability to track students longitudinally	8
Provide standardized student information processes	7
Develop statewide plan defining student automation needs	7
Provide confidentiality and privacy safeguards	7
Provide for accountability, public awareness, and local control	7
Increase hardware and software access	7
Provide appropriate technology for staff	7
Provide consistent student information formats	6
Improve the accuracy of data	6
Improve inter-agency communication	5
Provide link to nationwide network	5
Increase the consistency of student information/ identification formats	3

WCSD's main focus was on acquiring the capability to exchange data inside and outside the district which would allow the district to transfer data on-line, aggregate data, generate ad hoc reports, comply with state and federal data requests in a non-redundant and less cumbersome fashion, longitudinally track students, and update records quickly and effectively. To develop this capacity WCSD suggests acquiring adequate funding, generating a statewide plan, and providing access to the necessary communications tools, hardware, and software. Providing inter-agency communications and links to nationwide networks are also mentioned.

As with the other districts, standardizing the data collection, management, reporting, and transcript processes and formats was a high priority and development of consistently used student identification was suggested. WCSD suggested that adequate training be provided for staff, public accountability be increased, and local control of data be maintained.

"Every minute spent on records is not spent with the kids."

Teacher

Interview Question #3

Which one of the suggestions mentioned would you give the highest priority?

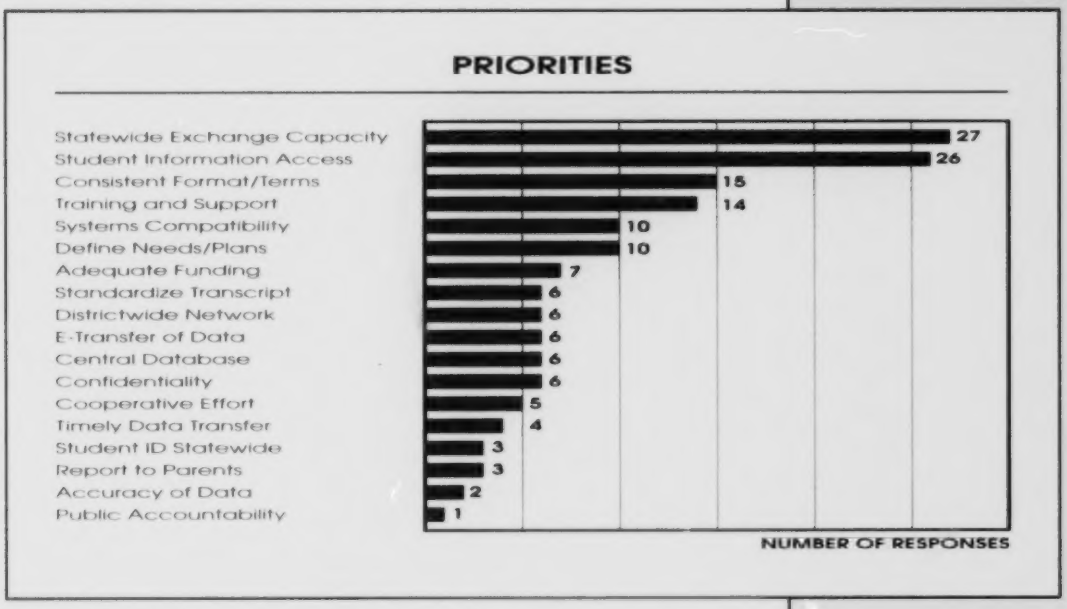


Figure 4. Number indicating specific priority areas.

Each respondent was given the opportunity to select one suggestion that he or she would give the highest priority. Acquiring the capability to exchange data statewide was noted most often and almost all of the most frequently noted priorities were related to this issue. Acquiring systems compatibility, working cooperatively to develop an in-depth data exchange plan, garnering adequate funding sources, developing districtwide systems, establishing electronic communications, and developing a statewide database were at the top of the priorities list.

Establishing consistent procedures, formats, and terminology for data collection, management, reporting, and transcripts were also near the top of the list, with statewide student identifier specifically noted. Developing confidentiality safeguards was mentioned, as were training and support. Some noted that public accountability and reports to parents were a top priority.

WCSD priorities are the same as the suggestions. The following is the WCSD listing of priorities in ascending rank order:

	Rank
Acquire appropriate funding to enable computer systems to exchange data inside and outside districts	1
Provide on-line transfer of data	2
Provide ability to aggregate data	3
Provide capacity to generate ad hoc reports	4
Provide capacity for computer systems statewide to offer common information interchange capacity	5
Provide funding for initial and on-going training	6

Provide communication tools (e.g., local area networks, e-mail, fax)	7
Provide ability to track students longitudinally	8
Provide standardized student information processes	9
Develop statewide plan defining student automation needs	10
Provide confidentiality and privacy safeguards	11
Provide for accountability, public awareness and local control	12
Increase hardware and software access	13
Provide appropriate technology for staff	14
Provide consistent student information formats	15
Improve the accuracy of data	16
Improve inter-agency communication	17
Provide link to nationwide network	18
Increase the consistency of student information/ identification formats	19

WCSD's main focus was on acquiring the capability to exchange data inside and outside the district which would allow the district to transfer data on-line, aggregate data, generate ad hoc reports, comply with state and federal data requests in a non-redundant and less cumbersome fashion, longitudinally track students, and update records quickly and effectively. Acquiring adequate funding, generating a statewide plan, and providing access to the necessary communications tools, hardware, and software are essential priorities in this regard.

Again as with the other districts, standardizing the data collection, management, reporting, and transcript processes and formats, adequate training for staff, increased public accountability, and maintenance of local control are high priorities.

Interview Question #4

What will the benefits be from the implementation of your suggestions?

Throughout the interviews, it was stated that students would be the major beneficiaries if student records were automated. Students stand to become better prepared for a world that daily is more technology-driven, as a result of gaining increased instructional opportunities and access to global information.

Benefits to Students:

Timely Student Placement

A significantly large number of the people interviewed indicated that untimely placement of students was one of the major problems that they have encountered and that students who were placed in a timely fashion were able to enroll and participate in the appropriate and full range of services offered by the school and/or district.

Increased Student Contact Time

Educator effectiveness can be directly tied to the amount of contact time they have with students. Those who were interviewed indicated that a significant amount of time could be redirected to contact with students if record keeping and similar activities were automated.

Improved Communications with Parents

Currently available technology, if implemented, would allow schools to access a wealth of needed information and provide that information to parents so that they too can become more active in the educational decisions that affect their kids. This would greatly improve parent/school communication.

Backbone Technology for Curriculum/Educating Students for the Future

The recommended models include hardware and software to establish communications networks within and between sites. These networks can be used as a backbone upon which curriculum information from other school, district, state, national, and international resources could be accessed directly from the classrooms. By providing students with access to the limitless number of nationwide and international networks, they may prepare for job markets in a rapidly changing economy, become technologically literate, and become adept at using technology for problem solving and other activities.

Student Assessment

Technology is an essential component of modern, comprehensive student assessment procedures. Technology allows for more useful analysis of assessment data and increased capability in reporting this data to students, parents, decision makers, and other constituents of educational systems.

"One child can change the total atmosphere of a class. Having information on each student is necessary to help the class as a whole."

Teacher

"An on-line student information system will save me time so that I can do the things I was hired to do."

Counselor

Benefits to Teachers and Staff:

Time Savings

Some of the most common responses from those interviewed indicated an increasing demand on educators to perform record keeping and tasks other than direct instruction of students. Time spent on these duties decreases opportunities to provide instructional activities for children. Technology will allow educators to more efficiently perform record keeping duties and increase contact time with students.

Redirection of Time

Most of the people interviewed were asked to estimate the amount of time they could redirect if access to automated student records and technology were made available to them. Average redirection time estimates were validated by supplemental interviews with selected staff. Appendix C contains a summary of the projected annual redirection of time categorized by job type; it is evident that a substantial benefit would be realized upon implementation.

Principals
indicated that they could redirect one hour per day to meet with students, teachers, and parents, make better informed decisions, and become more effective proactive leaders, if they had access to:

1) an on-line student information system;
2) word processing;
3) electronic mail; and
4) adequate technological training.

Counselors
said that if they had access to an on-line student information system, which included electronic mail, and automated student records from other school districts, they could redirect at least one hour a day to truly perform their two major functions:

1) meeting with and counseling students; and
2) insuring appropriate, efficient, and timely placement of students.

Teachers
indicated that they could redirect approximately one-half hour per day to provide more individualized instruction to students, make better decisions for individual students, create better lessons/lesson plans, and address student needs if they had access to:

1) an on-line student information system, which includes on-line attendance; and
2) adequate technology training.

Registrars
said that if they had access to an on-line automated student information system and automated student records from other

"The assistance of our computer system has been amazing. Information at my fingertips is wonderful."

Counselor

school districts, they would have at least one extra hour per day to process transcripts in a timely manner, insure timely and accurate placement of students, as well as check the accuracy of student data and generate summary information.

Attendance Clerks
indicated that they could redirect at least one hour per day to generate reports in a timely manner, reduce paperwork for teachers, and be more responsive to parents with accurate information (including attendance), if they also had access to an on-line automated student information system, automated student records from other school districts, and technology training.

Backbone Technology for Curriculum/Educating Students for the Future

This technology can provide teachers with direct access to the endless number of networks (e.g., Internet, Compuserve, Prodigy) that can supply them with a limitless range and amount of curriculum information from nationally and internationally recognized experts. It can directly improve and enhance instruction in the classroom, promote excitement, enthusiasm, and renewed interest in using new instructional strategies in the classroom. Increased interest and involvement in professional and personal growth opportunities will occur.

Improved Decision Making

Much of the information needed for critical decisions is often inaccessible or unavailable. Automation technology has the capability to provide needed data in the most efficient and timely manner possible. Automated information promotes accuracy, is readily accessible, and is in a format that can allow useful/advanced statistical analysis. The truly important questions can only be answered with these types of statistics. This technology will allow legislators, state and local school boards, and school, district, and state administrators to become proactive rather than reactive decision makers.

"Informed educators have more credibility with parents."

Principal

Improved Accuracy of Information

Automated, efficient information collection processes greatly improve the accuracy of reported data.

"We need to be fiscally responsible to taxpayers."

Administrator

Improved Efficiency, Productivity, and Time on Task

Those who were interviewed felt strongly that automated processes would greatly improve their productivity and efficiency. Many tasks are being performed manually, a method that is time intensive and inefficient. Technology will provide increased opportunities for individualized instruction, updating lesson plans and instructional material, and communicating with parents concerning student progress.

Communications Technology

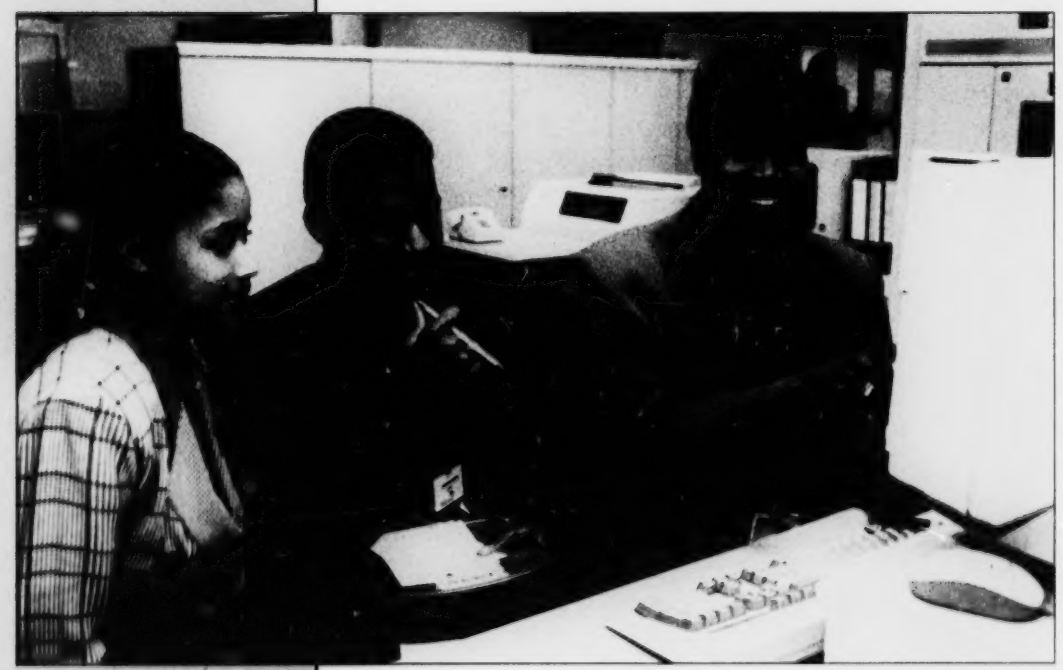
Electronic mail is a function that could be available to staff members. This capability will allow users to quickly and efficiently communicate, minimize the use of internal paper documents, and insure that information intended for wide distribution be transmitted in the most cost effective manner possible.

Improved Performance for Reporting Staff

Duplication of effort is a primary concern for many of the individuals who handle student record information. Not only will electronic reporting of information improve the quality (accuracy, completeness, consistency, and compatibility) and timeliness of data that is reported but it will minimize the efforts, reduce frustrations, and increase morale of staff who are involved in federal and state reporting.

Improved Confidentiality

Student records that are managed manually are handled by many more people than automated records and those who manually handle the records are not required to provide a security identification for access. Security functions on computer systems have the capability to provide maximum protection against unauthorized access. These systems are very sophisticated and allow only authorized agents to access previously approved fields of information.



Interview Question #5

Looking into the future, what student information services or technologies do you think would help you do your job better?

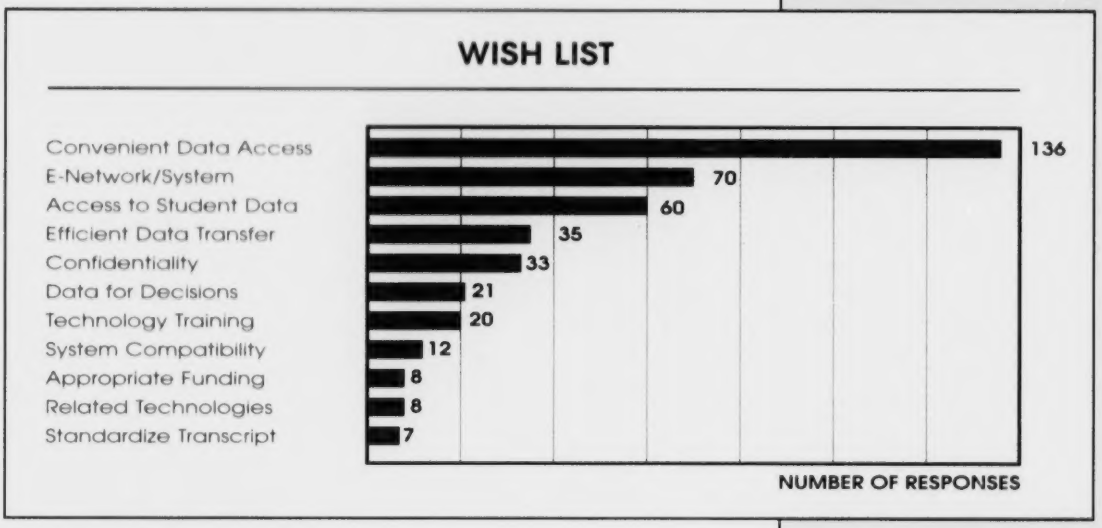


Figure 5. Number indicating specific desired services or technologies.

Respondents' wish list items were primarily related to acquiring increased electronic access to student record information. Convenient data access, electronic systems and networks, efficient data transfer, systems compatibility, and acquiring adequate funding to establish automated systems were specifically noted. In addition, general access to student data for better educational and administrative decisions, confidentiality safeguards, technology training, standardized transcripts, and other related technologies were also mentioned.

The wish list items noted above were mentioned by the WCSD staff and the WCSD response provided additional details. The following is the WCSD wish list with weights associated.

	Weight
Acquire appropriate funding	10
Increase access to information for improved decision making	10
Increase speed and efficiency in the exchange and transfer of data	10
Provide capacity of computer systems statewide to offer common information interchange capacity	10
Provide training to become effective users of technology	10
Standardize student transcripts	8
Provide convenient user friendly access to student information by appropriate user groups	7
Employ other technologies (e.g., voice, video data, wireless, PDA, Internet multimedia)	7
Develop confidentiality & security safeguards	6
Provide electronic network/system	6

Hardware and Software Survey

A hardware and software inventory survey was administered to determine the amount and type of hardware and software used to manage, manipulate, transfer, and report student record information that is currently available at district and school sites throughout the state. Appendix A contains a copy of the hardware and software survey instrument. All of the school districts in Nevada completed this survey.

Table 1. Number and type of schools within each school district in Nevada.

DISTRICT	TOTAL NUMBER OF SCHOOLS[1]	SCHOOL LEVEL			
		HIGH	MIDDLE	ELEMENTARY	SPECIAL
Carson	10	1	2	6	1
Churchill	7	1	1	4	1
Clark	188	21	28	126	13
Douglas	10	2	2	5	1
Elko	25	6	1	18	0
Esmeralda	3	0	0	3	0
Eureka	3	1	0	2	0
Humboldt	13	2	1	10	0
Lander	6	2	1	3	0
Lincoln	8	2	1	4	1
Lyon	13	4	3	6	0
Mineral	4	1	0	3	0
Nye	16	5	1	10	0
Pershing	4	1	1	2	0
Storey	4	1	1	2	0
Washoe	73	11	10	50	2
White Pine	8	2	1	5	0
Total	**395**	**63**	**54**	**259**	**19**

[1] *This information was taken from the 1993-94 Nevada Department of Education Research Bulletin.*

Table 2. Number of schools within each school district using various student information software and modules.

DISTRICT	NUMBER OF SCHOOLS	NUMBER OF SCHOOLS WITH STUDENT INFORMATION MANAGEMENT MODULES: ATTENDANCE	PERFORMANCE	SPECIAL PROGRAMS	DEMOGRAPHICS	STUDENT INFORMATION MANAGEMENT SOFTWARE USED
Carson	10	2	2	2	4	Hartz, Excel, FileMaker Pro
Churchill	7	6	2	0	8	Columbia
Clark	188	50	176	176	176	Socrates, Mac School
Douglas	10	10	10	10	10	SASI
Elko	25	5	5	5	5	Columbia, Surfside, CIMSIII
Esmeralda	3	0	0	0	0	None
Eureka	3	3	3	2	3	Mac School, SASI
Humboldt	13	0	1	0	0	Columbia
Lander	6	0	0	0	0	None
Lincoln	8	3	3	3	3	Columbia
Lyon	13	12	12	12	12	Mac School
Mineral	4	4	3	1	3	Columbia
Nye	16	15	0	0	0	Columbia
Pershing	4	2	1	1	0	MECC Student Systems
Storey	4	4	4	4	4	Columbia
Washoe	73	72	72	72	72	SASI
White Pine	8	3	3	1	4	Columbia, Surfside, Surfside II, Excel
Total	**395**	**191**	**297**	**289**	**304**	

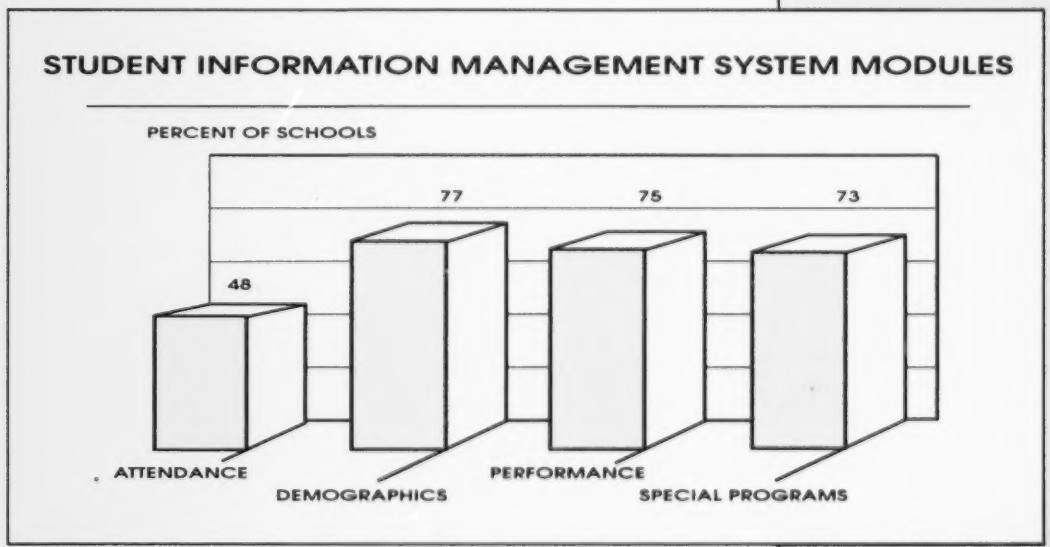


Figure 6. Percent statewide of schools using various student information modules.

- One hundred and fifty schools (38% statewide), have full student information system packages. Complete packages are available in all or almost all of the schools in Washoe, Douglas, Eureka, Lyon, and Storey. About 38% of the schools statewide have partial packages and approximately 24% of the schools statewide manage student record information manually and have no access to automated student information systems.

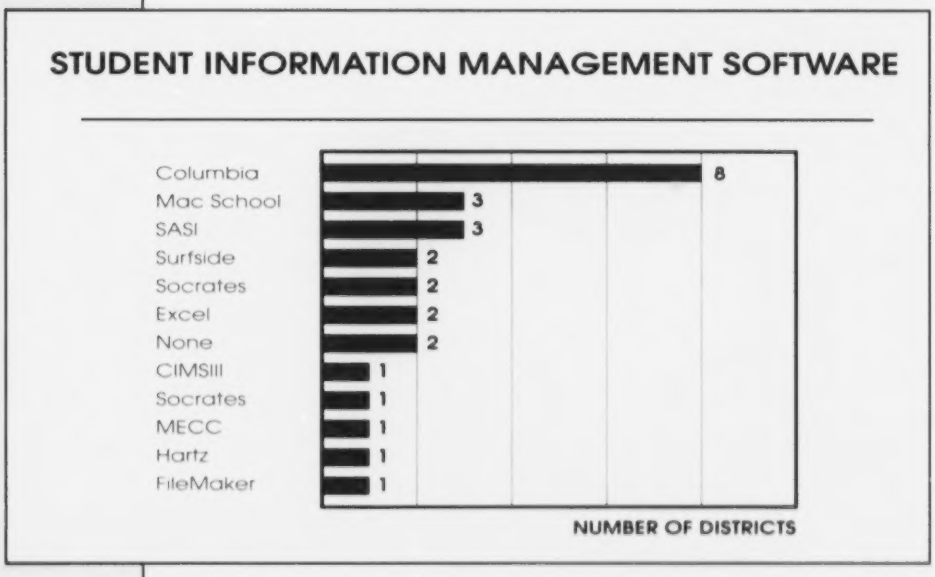


Figure 7. Number of districts using various student information software.

- The most commonly used student information systems in the state are Columbia, Mac School, and SASI. Note that at least five districts do not have any student information system software. Three of these districts use spreadsheet applications.

Table 3. Number of schools within each district that are connected to district offices and number of LANs/ WANs and workstations in each school district.

		CONNECTIVITY		HARDWARE/WORKSTATIONS [2]	
DISTRICT	TOTAL NUMBER OF SCHOOLS	NUMBER OF SCHOOLS CONNECTED TO DISTRICT OFFICE	NUMBER OF NETWORKS (LAN/WAN)	NUMBER OF PCs AND/OR TERMINALS	NUMBER OF MACs/APPLES
Carson	10	0	2	2	13
Churchill	7	0	5	20	0
Clark	188	176	263	940	50
Douglas	10	10	10	64	0
Elko	25	3	8	116	0
Esmeralda	3	0	0	1	0
Eureka	3	2	4	3	3
Humboldt	13	0	0	20	5
Lander	6	0	0	0	0
Lincoln	8	0	0	3	3
Lyon	13	0	11	0	56
Mineral	4	0	1	3	0
Nye	16	0	1	17	9
Pershing	4	0	0	2	0
Storey	4	4	0	7	0
Washoe	73	72	72	72	72
White Pine	8	0	2	7	0
Total	**395**	**267**	**379**	**1,277**	**211**

[2] *Numbers describe only hardware/workstations used for administrative purposes to manage student record information.*

- A substantial percentage (67.6%) of schools statewide are currently connected to district offices. Over 93% of the schools in Clark, Washoe, Douglas, and Storey are connected to district offices.
- Eleven of the school district offices are not connected to any of the schools within the district.
- Approximately 14.2% of the workstations are Apples/MACs and the remaining 85.8% are PCs or dumb terminals.

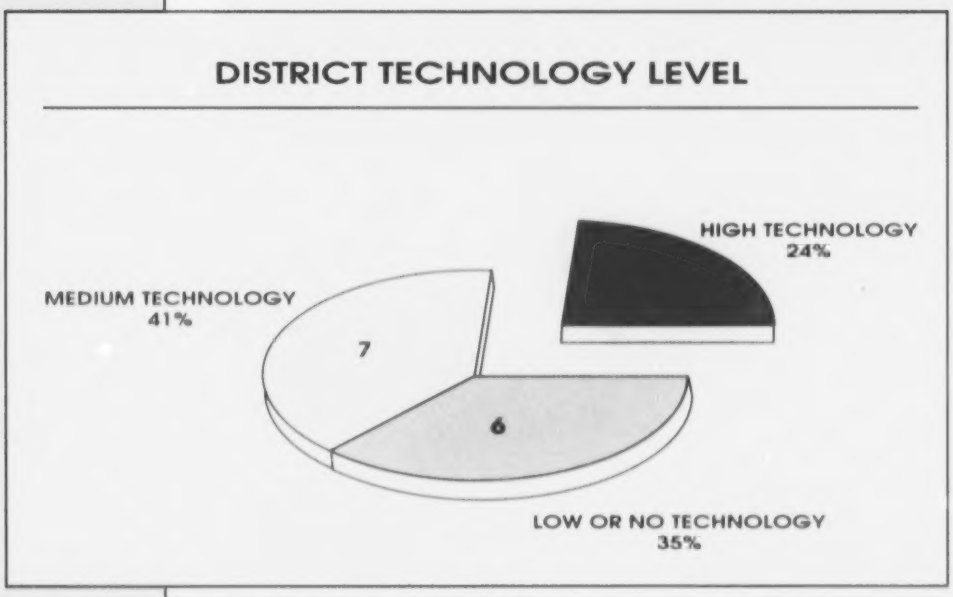


Figure 8. Number and percent of school districts at various technology levels.

High Technology
is indicated by extensive Local Area Networks (LANs) /Wide Area Networks (WANs) and/or mini or main-frame presence. These four school districts enroll over 85% of the K-12 student within the state of Nevada.

Medium Technology
indicates the presence of LANs/WANs or a high percentage of desktop units.

Low or No Technology
indicates that there is either some technology that is out-dated, or no technology is present.

Data Elements and Training Survey

This survey contained a comprehensive listing of data elements that are generally found in a student record or transcript. The survey was administered to determine the use of data elements and to whom data is distributed. The latter part of this survey focused on the level of skill the interviewee had and training that the interviewee might need in using computer technology. Appendix B contains a copy of the data elements and training survey instrument.

Analysis of the question regarding the importance of particular data elements in the performance of each respondent's job yielded the following:

- Virtually all of the data elements are considered important by WCSD and CCSD. In fact, the vast majority of these data elements are currently or are planned to be electronically managed.
- None of the data elements noted in this survey were considered unimportant to the individuals who were interviewed. All of the fields of information were considered important to at least 29% of respondents.
- More than 80% of the respondents considered enrollment (enrollment date, grade enrollment, and withdrawal information) and demographic (name, gender, birth date) data elements important for their jobs. Approximately 75% indicated that academic (progress information, standardized test scores) and medical data elements were important. Public assistance status had the lowest percentage.
- Overall, principals viewed more data elements as important than did other groups. Student achievement information is of particular importance; 100% percent of the principals consider standardized test scores and proficiency test scores important while 94% consider progress information important. High percentages were also associated with demographic and enrollment data elements.
- Registrars and student records staff appeared to have the second greatest need for data. The highest percentages for this group were associated with demographic and enrollment information. All of the individuals in this group considered withdrawal information, gender, and birth date important. The percentages remained high across all of the data element categories for this group.
- The responses from attendance clerks were similar to those of registrars and student records staff; however, higher percentages for medical (emergency, immunization) and family (residence, family employment) data elements were found from attendance clerks.
- Counselors expressed the third greatest need for data. Transcript requests as well as withdrawal information were important for all of the counselors. Like principals, counselors also relied heavily upon academic information. Over 88% of the counselors value and use standardized test scores, progress information, grade point average, course information, and graduation/high

"The future has arrived for education. Access to data makes everyone more effective."

Principal

"Information is power."

Principal

school completion. Various demographic and enrollment data elements also received high percentages from this group.

- All teachers indicated that legal name, handicapping condition, and parent/guardian name were important. Most teachers appear to value a balance of student achievement, demographic, enrollment, and medical data elements.

- Most secretaries also use demographic, enrollment, student achievement, and medical information.

- Respondents distribute the greatest variety of data to, in descending order: a) district offices; b) federal/state agencies; c) other agencies; d) other schools within district; and e) other districts.

- Based on the survey, no information is directly distributed to parents by respondents.

The table on the following pages provides a detailed listing of which data elements are considered important to each of the respondent groups.

Analysis of the training questions revealed:

- Fifty-two percent of the respondents indicated that their districts had a computerized student information system and 24% noted that one was needed but was currently unavailable. Forty-seven percent consider a student information system important to their jobs; however, only 23% of those interviewed consider themselves highly proficient at using their system. Approximately 67% indicated that they would like some or additional training in student information system use.

- Twenty-three percent of the respondents currently use electronic mail and only 6% consider themselves highly proficient at its use. Seventy-six percent consider electronic mail important to their jobs with approximately 55% considering it to have medium to high importance.

- Thirty-five percent of the respondents use computers that are connected to a network; however, only 17% mentioned that they were highly proficient at using a network. Thirty-seven percent indicated that a network was needed but not available. Seventy percent noted that a network is of medium to high importance in their jobs.

- Eighty-one percent of the respondents use word processing software and about the same percentage consider word processing of medium to high importance in their jobs. Seventy-six percent consider themselves fairly proficient at using this software.

"Automation can be overwhelming, training programs are a must."

Clerical Staff

Table 4. Percent of respondents who consider specific data elements important for their jobs.

DATA ELEMENTS	TOTAL	PRINCIPALS	COUNSELORS	REGISTARS/STUDENT RECORDS	SECRETARIES	ATTENDANCE	TEACHERS	OTHER
Student Personal Characteristics/ Demographics	65.1	74.7	70.0	76.7	65.0	77.5	62.0	56.0
Legal Name	84.3	88.2	87.5	93.3	100.0	100.0	100.0	50.0
Gender	84.3	94.1	87.5	100.0	100.0	100.0	93.3	70.0
Ethnicity	74.2	94.1	87.5	93.3	62.5	100.0	60.0	70.0
Birth Date	83.1	88.2	100.0	100.0	100.0	100.0	80.0	60.0
Place of Birth	52.8	82.4	37.5	80.0	75.0	75.0	26.7	50.0
Citizenship	44.9	64.7	50.0	46.7	25.0	25.0	40.0	50.0
Social Security No.	32.6	52.9	25.0	33.3	12.5	25.0	6.7	40.0
Student Identification No.	51.7	52.9	75.0	73.3	50.0	75.0	33.3	40.0
Handicapping Condition	73.0	64.7	75.0	73.3	62.5	75.0	100.0	70.0
Second Language	69.7	64.7	75.0	73.3	62.5	100.0	80.0	60.0
Family/Residence	53.2	55.9	43.8	52.5	47.2	50.0	61.7	52.5
Parent/Guardian Name	79.8	94.1	87.5	80.0	100.0	100.0	100.0	50.0
Employment/Occupation	70.8	82.4	62.5	80.0	87.5	100.0	73.3	50.0
Residence Data	80.9	88.2	87.5	80.0	87.5	100.0	93.3	70.0
Number of Siblings	40.4	29.4	37.5	33.3	25.0	50.0	60.0	50.0
Parental Marital Status	49.4	52.9	37.5	53.3	37.5	50.0	60.0	40.0
Family Income	32.6	29.4	12.5	26.7	12.5	0	26.7	50.0
Public Assistance	29.2	29.4	0	13.3	0	0	33.3	50.0
Migrant Status	42.7	41.2	25.0	53.3	27.5	0	46.7	60.0
Medical Information	70.1	82.4	82.5	80.0	87.5	85.0	80.0	46.0
Medical History	66.3	82.4	75.0	73.3	87.5	75.0	86.7	30.0
Physical, Health	71.9	76.5	87.5	86.7	87.5	75.0	80.0	60.0
Speech/Language Conditions	70.8	76.5	75.0	86.7	87.5	75.0	80.0	60.0
Immunization Records	71.9	88.2	87.5	73.3	87.5	100.0	73.3	50.0
Emergency Information	69.7	88.2	87.5	80.0	87.5	100.0	80.0	30.0
Special Programs	53.7	53.0	60.0	48.0	62.5	45.0	60.0	58.0
Migrant Program Participation	43.8	47.1	37.5	26.7	37.5	0	46.7	70.0
Chapter 1 Program Participation	49.4	47.1	62.5	33.3	75.0	50.0	46.7	60.0
Special Needs	67.4	64.7	75.0	80.0	75.0	75.0	80.0	60.0

Table 4. (Continued)

DATA ELEMENTS	TOTAL	PRINCIPALS	REGISTARS/STUDENT RECORDS COUNSELORS		ATTENDANCE SECRETARIES		TEACHERS	OTHER
Academically Talented/Gifted	51.7	47.1	62.5	46.7	62.5	75.0	53.3	50.0
Other Special Services	56.2	58.8	62.5	53.3	62.5	25.0	73.3	50.0
Enrollment/Attendance	62.3	76.5	61.7	68.9	70.0	73.3	54.7	46.7
Date of Enrollment/Entry	86.5	94.1	87.5	93.3	100.0	100.0	86.7	70.0
Grade Enrollment	84.3	94.1	75.0	93.3	100.0	100.0	86.7	70.0
Special Program	61.8	76.5	50.0	66.7	75.0	50.0	60.0	50.0
Grade Placement	76.4	88.2	75.0	86.7	100.0	100.0	80.0	60.0
Previous School Attended	71.9	94.1	62.5	93.3	87.5	75.0	66.7	50.0
Early Childhood	43.8	58.8	12.5	40.0	25.0	50.0	40.0	40.0
Home School	58.4	82.4	37.5	66.7	75.0	75.0	40.0	40.0
Alternative Program	46.1	64.7	62.5	53.3	37.5	25.0	40.0	30.0
Court School	39.3	52.9	37.5	33.3	50.0	50.0	33.3	30.0
Home Bound	55.1	64.7	62.5	86.7	75.0	75.0	40.0	30.0
Home Study	50.6	64.7	50.0	60.0	62.5	100.0	40.0	30.0
Adult High School	40.4	58.8	50.0	33.3	25.0	50.0	33.3	40.0
Withdrawal Information	82.0	88.2	100.0	100.0	100.0	100.0	73.3	50.0
Dropout Information	67.4	76.5	75.0	73.3	62.5	50.0	40.0	60.0
Membership and Attendance	70.8	88.2	87.5	53.3	75.0	100.0	60.0	50.0
Academic Information	62.1	81.9	82.3	71.1	57.3	52.1	60.6	49.2
Course/Class Information	70.8	100.0	87.5	80.0	75.0	75.0	66.7	40.0
Grades/Grade Point Average	68.5	94.1	87.5	86.7	62.5	75.0	60.0	60.0
Cumulative Earned Credits	58.4	76.5	87.5	66.7	50.0	25.0	53.3	50.0
P ogress Information	74.2	94.1	87.5	73.3	87.5	100.0	80.0	60.0
Standardized Test Scores	74.2	100.0	87.5	80.0	75.0	75.0	80.0	70.0
Proficiency Test	67.4	100.0	75.0	80.0	62.5	75.0	60.0	60.0
Athletic Eligibility	48.3	52.9	62.5	73.3	62.5	75.0	40.0	30.0
Graduation/High School Completion	61.8	64.7	87.5	73.3	37.5	25.0	60.0	60.0
Honors Program	51.7	70.6	87.5	60.0	37.5	25.0	40.0	40.0
Disciplinary Action	57.3	82.4	87.5	33.3	25.0	0	66.7	60.0
Transcript Requests	62.9	88.2	100.0	86.7	87.5	50.0	53.3	30.0
Counselor Name	49.4	58.8	50.0	60.0	25.0	25.0	66.7	30.0
Transportation	37.1	41.2	25.0	30.0	18.8	12.5	36.7	65.0
Bus Route	38.2	41.2	37.5	40.0	25.0	25.0	40.0	50.0
Distance Transported	36.0	41.2	12.5	20.0	12.5	0	33.3	80.0

IMPLEMENTATION PLAN

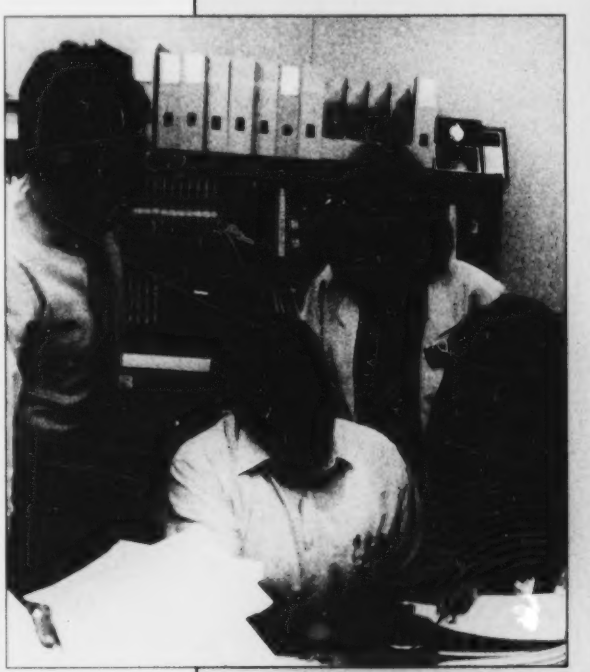
Develop or Improve Districtwide and NDE Systems

General Conclusions/Assumptions:

- Each school district will maintain exclusive control over the release of student data and student data will only be released from that district office.
- Each school district will maintain exclusive control over the selection of hardware and software used within that district. However, hardware and software used to transmit or receive student data must meet the minimum specifications noted in Appendix E – School and District Model Components.
- The NDE will maintain exclusive control over the selection of hardware and software used within the branches of the NDE. However, hardware and software used to transmit or receive student data must meet the minimum specifications noted in Appendix E – NDE Model Components.

Each school district in the State of Nevada and the NDE shall have an automated student information system capable of exchanging information with other entities by 1997. Information produced by these systems will be owned and controlled by the originating district.

Appendix D contains the logic used to define the models upon which district, school, and NDE systems should be based. Each model contains communications, input/inquiry, and analysis functions. Port capacity and modem counts for communications were based upon estimates from the hardware/software inventory. Appendix E contains the cost for full implementation of these models throughout the state. *Note that these estimates are based on figures submitted by vendors just prior to the publication of this document and are subject to change.*



All school districts and the NDE will develop a technology and training plan. Hardware and software purchases should be based on an objective and thorough needs assessment which determines the functional, data, and training requirements of the system.

Representatives from school districts that have selected student information system software and associated hardware, in collaboration with the NDE, will present a one-day workshop that will provide other school districts with information regarding advantages and disadvantages of the student information systems used throughout the state and recommended steps for the selection of student information system hardware and software.

Develop a Funding Plan

The 1995 Legislature shall provide to each school district and the NDE for FY-96 up to 75% of the cost to implement the plan appropriate to the needs and development level of the district and NDE. In FY-97 up to 75% of the cost to continue the implementation of the system and for future years, a cost equivalent to 25% of the system for maintenance and upgrades. It is recommended that the vehicle for this

funding be based upon an increase in the district basic support per pupil amount and on the following:

- Money must be allocated for technology;
- Funding should be tied to the Distributive School Account and impact should be the same throughout the state;
- There is a need to fund ongoing maintenance, enhancement and training; and
- Districts that have already begun or implemented automation should not be penalized. Allocations made to these districts may be used for upgrading existing automated student data management systems to ensure compatibility, complete implementation of automated student data management systems, and purchase of hardware and/or software.

The local school districts, in cooperation with the NDE, shall establish an ad hoc committee to explore other funding sources which may include:

- Business and industry partnerships;
- Federal grants;
- Private grants using the Grants Register and other resources; and
- Fund-raising alliances with NSEA, local and state PTA, and others.

Statewide System for Automation and Transfer of Student Records

General Conclusions/Assumptions:

- Student data will be released on a periodic, rather than a continuous basis, via dial-up point-to-point transmission. Given the statewide use of a standard transmission protocol, such as Kermit, issues of hardware, platform, and software compatibility become moot.
- Student data will be transmitted in a standard format, ASCII delimited Standardization of Postsecondary Education Electronic Data Exchange/Exchange of Permanent Records Electronically for Students and Schools (SPEEDE/ExPRESS) format. ASCII is common to all computer platforms and all student information systems used within the state are capable of exporting and importing delimited ASCII files. SPEEDE/ExPRESS is a file layout protocol that is nationally recognized as the educational standard for electronic transmission of student record information and specifies position of potential data elements and codes associated with each element in the data file. Electronic Data Interchange (EDI) software can be purchased to translate any ASCII delimited files to and from the SPEEDE/ExPRESS file format.

Districts and NDE shall acquire the ability to receive and transmit information in the ASCII delimited SPEEDE/ExPRESS file format by purchasing and implementing EDI translation software and the recommended communications tools (Refer to the communication tools

"Please don't give us another mandate without proper funding."

District Staff

section for information on hardware and software standards for point to point transmission of data).

A statewide advisory committee comprised of representatives from the local school districts and the NDE will:

- Establish general guidelines and develop a handbook which outlines general procedures for sending and receiving electronic information. The handbook will be submitted for local school district and NDE superintendent approval;
- Evaluate various Electronic Data Interchange (EDI) translation software packages/vendors and establish general guidelines for the purchase of EDI translation software; and
- Establish a system of cooperative agreements between exchanging entities that focuses on receiver's use of information, confidentiality, and security. The advisory group should consider the use of written contracts and establishing a forum for superintendent discussions.

Communications Tools

General Conclusions/Assumptions:

- The planned State of Nevada Enterprise Information Delivery System is intended to be an extensive, managed utility network that will provide a consolidated transport facility to all government (state, county, and local) entities within the state. By providing a backbone of high bandwidth to key locations throughout the State and strategic points of entry and exit, the system will enable all participants to communicate with any other government agency, regardless of level, across a common utility (with proper authority). The direction of the service is to initially provide data communications and expand to support current technologies such as voice, video, fax, and emerging technologies as they become stable.
- Internet has electronic mail capacity. Currently the NDE is financially supporting a server on the Internet and will provide districts with access at no charge at this time. Internet is an unmanaged network and therefore should not be used to transfer student record information.

Access to electronic communication tools shall be available which will allow all educational entities within the State to effectively exchange information among districts, to meet state and federal reporting requirements on-line, if the originator of the data so desires, and to develop the network capacity to accommodate electronic voice, video, and data transmissions.

The State of Nevada Enterprise Information Delivery System will be used as the vehicle for networking requirements for the student records information automation plan and for electronic communication between data exchanging entities.

If the planned Enterprise Information Delivery System cannot meet the requirements of the student information automation plan, student

"We need to be willing to change a little to work together."

District Staff

records will be sent and received via direct dial-up from the sender to the receiver and the Internet may be used as a vehicle for electronic mail only. Responsibilities of the exchanging entities include:

- Purchase 9600 baud modems or communications cards, if necessary;
- Purchase communication software which meets the statewide protocols;
- Identify who are authorized staff members;
- Establish accounts with the Enterprise System or Internet, given the caveats noted above; and
- Establish training plans for staff in the use of the above noted communications tools and software.

Electronic Reporting

NDE shall establish a NDE task force comprised of individuals from each of the educational branches who will meet periodically. This group will be responsible for streamlining state and federal student data reporting procedures in order to minimize data requests and improve the consistency and compatibility of collected and reported data. Duties for the NDE task force include, but are not limited to:

- Identify the potential users within the NDE who are involved in and/or need the collection, analysis, or reporting of student information. Conduct a thorough and objective needs assessment to determine the data requirements of users of this information. The assessment must include a review of current state and federal regulations pertaining to data collections.
- Review and evaluate the current data collection/reporting elements, forms, procedures, deadlines, and submission formats to determine the extent of redundancy and inconsistency in data requests.
- Develop a draft set of data definitions which includes all the required types of information for collection, analysis, and reporting purposes. Each NDE branch that uses a particular definition must approve it and agree to the use of it as written. All definitions must comply with federal and state regulation.
- Develop a draft document which includes procedures and deadlines for collecting and reporting that are consistent and acceptable to all of the appropriate branches within the NDE. The procedures and deadlines must be designed to eliminate redundancy in data requests, provide districts with a streamlined approach to data submission, and insure the consistency of data reported.

The NDE must work collaboratively with local school districts to create an official electronic data reporting handbook. In addition, the NDE must establish a data management unit that will collect, analyze, and report student information for the agency and provide continuing technical assistance to districts regarding data collection procedures and deadlines, conversions/translations, and transmission. Upon request, the NDE will provide the districts with statewide summaries of student information.

Following the adoption of this plan, the 17 school districts and the NDE will nominate individuals who are involved with student information systems to serve on a committee to provide guidelines and documentation to assist districts in reporting student information electronically. Representatives designated by the Superintendents from educational entities throughout the State shall meet periodically to update and refine policies, procedures, and recommendations for reporting student information electronically. Committee responsibilities include:

- Using the NDE draft documents as a basis, establish an official statewide electronic data reporting handbook that includes a data dictionary of reported data elements, reporting procedures, and reporting deadlines;
- Present statewide handbook to the NDE and local superintendents for approval;
- Provide on-going evaluation and support of the electronic reporting process; and
- Establish training plan and schedule for individuals who report data.

Confidentiality and Security

General Conclusions/Assumptions:

- Each school district will maintain exclusive control over the selection of security and back-up systems used within that district.
- The NDE will maintain exclusive control over the selection of security and back-up systems used within the NDE.

The districts and the NDE shall work cooperatively to develop guidelines for the inter-agency exchange of information which reflects a sensitivity to emerging legal implications. Each entity shall implement a security plan to protect data contained within the system.

As a priority, the task force will complete guidelines for use by the school districts within six months of the adoption of this plan. It is expected that an outside auditing firm will provide draft guidelines to the security task force. As a minimum, the task force will address the following:

- Physical Security – Protect hardware from theft, misuse, and other potential hazards;
- Security Access – Unauthorized access of data to include editing, modifying, and inappropriate use (i.e., personal);
- Management control of the hardware and software funded by this effort;
- Software virus problems;
- Ethical Issues – misuse of the software copyright laws; and
- Back-Up and Recovery.

Training and Technical Assistance

The NDE shall work cooperatively with local districts to develop a plan to provide technical support and training to staff, who will be involved in managing, handling, or transferring automated student records. The training matrix contained in Appendix F should be consulted when developing school, district, and NDE training plans. For every dollar spent on technology, a minimum of an additional thirty cents shall be spent on training and technical support to provide:

- On-going training appropriate to job position/function for all affected staff;
- Hands-on training concurrent with hardware and software installation at each site;
- A site resource person for technical support;
- Resources to establish a 1-800 help desk which offers technical assistance to answer hardware and software questions;
- An opportunity for end users to periodically share technology related information, concerns, and ideas;
- Adequate and appropriately staffed and equipped training facilities, if needed by school district members and the NDE. These facilities may be fixed or mobile; and
- Training included as part of all new staff orientation.

Electronic Transcripts

The districts, in cooperation with the NDE, shall establish an advisory group comprised of district and site administrators and staff who are concerned with and/or manage student records and transcripts to establish guidelines and documentation to assist districts in sending and receiving transcript information electronically. The committee must:

- Review and evaluate the current data elements that are contained in the transcripts used throughout the state;
- Develop a glossary which identifies in each district the course title and its application to each category of graduation requirements;
- Describe the methodology by which each district computes GPA and Honor Points;
- Establish a list of data elements to be included in all transcripts;
- Describe district differences in course titling, grading scales, and methods of calculating GPA; and
- Meet periodically to update and refine policies, procedures, and recommendations related to transmitting transcript information electronically.

"We need to have an open accessible system that can be expanded to meet future needs."

District Staff

Student Information Directory

The districts, in cooperation with the NDE, shall develop a Student Information Systems Directory for distribution to all school districts to be used to facilitate non-electronic data transfer among districts and with the NDE. The Directory will be updated annually and contain a copy of the transcripts used within each school district and indicate the meaning of codes used within each transcript. The directory will also provide a master list of all basic reports requested by the NDE.

The table on the following pages provides the implementation plan timelines.

Plan Timelines

Table 5. Implementation Plan Timelines.

RECOMMENDATION	RESPONSIBLE PARTIES	1994 PRE-PHASE
Develop/Improve Districtwide and NDE Systems	Local School Districts	Local school districts develop technology and training plans.
	NDE	NDE develop technology and training plans.
	Local School Districts and NDE	Conduct workshop on student information systems used throughout the state.
Funding Plan	Local School Districts and NDE	Explore various funding sources, including the 1995 Legislature, federal grants, private grants, funding alliances, and business and industry partnerships. Develop plan to acquire needed funding.
System for Electronic Transfer	Local School Districts and NDE	Purchase EDI software to translate/ convert student record file into the SPEEDE/ExPRESS format.
	Local School Districts NDE	Establish guidelines and develop a handbook that outlines specific procedures for sending and receiving electronic information, general guidelines for purchasing EDI SPEEDE/ExPRESS translation software, and a system for cooperative agreements for exchanging entities.
Communication Tools	Local School Districts and NDE	Purchase communications software and 9600 baud modems or communications cards.
	Local School Districts and NDE	Establish accounts on the Enterprise System. If the Enterprise System cannot meet the requirements of the plan, establish accounts on the Internet.

1995-96 PHASE-I	1997-98 PHASE-II	1999-2000 PHASE-III
Purchase technology and train staff.	Purchase technology and train staff.	Evaluation and Update
Purchase technology and train staff.	Purchase technology and train staff.	Evaluation and Update
Implement plan.	Implement plan.	Evaluation and Update
Customize EDI software and pilot translation/conversion.	Implement plan.	Evaluation and Update
Implement plan.	Implement plan.	Evaluation and Update
Continue implementation.	Continue implementation.	Evaluation and Update

Table 5. (Continued)

RECOMMENDATION	RESPONSIBLE PARTIES	1994 PRE-PHASE
Electronic Reporting	NDE	Conduct a thorough and objective needs assessment to determine the data requirements and the extent of redundancy and inconsistency in requests. Develop draft documents with data definitions and data procedures and deadlines.
	NDE	Establish a data management unit to meet the NDE's electronic data collection, analysis, and reporting needs, coordinate activities and provide technical support to districts to establish and support electronic data exchange, and provide districts with statewide summary information.
	NDE	Develop a training plan for local school district staff who are involved in electronic reporting of data and provide the needed training.
	Local School Districts and NDE	Using the draft documents as a base, develop an official electronic reporting handbook and monitor electronic reporting process.
Confidentiality and Security Safeguards	Local School Districts and NDE	Develop guidelines for interagency data exchange. Individually develop security plans that protect respective systems.
Training Plans	Local School Districts and NDE	Establish a training plan for individuals who are involved in managing, handling, and transferring automated student records.
Electronic Transcript		
	Local School Districts and NDE	Establish an advisory committee to establish guidelines and documentation to address the technical issues involved in sending and receiving transcripts.
Student Information Directory	Local School Districts and NDE	Develop a student information directory for non-electronic/manual reporting of data which contains copies of all the transcripts used within the state, codes associated with each transcripts and examples of all basic reports requested by the NDE.

1995-96 PHASE-I	1997-98 PHASE-II	1999-2000 PHASE-III
Purchase technology and train staff.	Purchase technology and train staff.	Evaluation and Update Evaluation and Update
Implement plan.	Implement plan.	Evaluation and Update
Implement plan.	Implement plan.	Evaluation and Update
Implement plan.	Implement plan.	Evaluation and Update
Implement plan.	Implement plan.	Evaluation and Update
Implement plan.	Implement plan.	

A

APPENDIX

This Survey is part of our needs assessment required to make recommendations which are critical to initiate requests for funding. **The requested information applies only to equipment and software used for student information management, not equipment or software for instructional purposes...**

District Name: _____

Contact Name: _____

Phone Number: _____

FAX Number: _____

Please keep this top sheet with the rest of the survey so that identification can be expedited when all of the information is compiled. Questions on how to fill out this survey can be directed to Beau Pankiw at (702) 687 5965 (Carson City). Upon completion, either mail or FAX this entire survey, by February 11, 1994, to:

Denise K. Quon
Department of Education, Planning, Research and Evaluation
400 W. King Street • Carson City, NV 89710
Office: 687 3130 • FAX: 687 5660

Section I: Attendance/Enrollment (e.g., ADA, ADM,)

1. How many schools in your DISTRICT use an automated (computer) system to collect, manage, and report student attendance information? _____

2a. Of the schools that have an automated system, please indicate how many have access to and/or originate student information on-line at the CLASSROOM level? _____

2b. Of the schools that have an automated system, please indicate how many have access to and/or originate student information on-line at the SCHOOL OFFICE level? _____

3. How many computers at the DISTRICT office are used for recording and reporting student attendance information? _____

4. How many schools have classroom computers that are networked to computers in other classrooms or offices for recording and reporting student attendance information? _____

5. How many schools have central offices that are electronically connected to the district office for recording and reporting student attendance information? _____

6. Please list any agencies that your DISTRICT'S office computer system is electronically connected to for reporting student attendance information. _____

_____

_____

Section II: Student Performance/Achievement (e.g., grades, test scores)

1. How many schools in your DISTRICT use an automated (computer) system to collect, manage, and report student performance information? _____

2a. Of the schools that have an automated system, please indicate how many have access to and/or originate student information on-line at the CLASSROOM level? _____

2b. Of the schools that have an automated system, please indicate how many have access to and/or originate student information on-line at the SCHOOL OFFICE level? _____

3. How many computers at the DISTRICT office are used for recording and reporting student performance information? _____

4. How many schools have classroom computers that are networked to computers in other classrooms or offices for recording and reporting student performance information? _____

5. How many schools have central offices that are electronically connected to the district office for recording and reporting student performance information? _____

6. Please list any agencies that your DISTRICT'S office computer system is electronically connected to for reporting student performance information. _____

_____

_____

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Section III: Special Programs

(e.g., Special Education, Occupational Education)

1. How many schools in your DISTRICT use an automated (computer) system to collect, manage, and report student special programs information? _____

2a. Of the schools that have an automated system, please indicate how many have access to and/or originate student special program information on-line at the CLASSROOM level? _____

2b. Of the schools that have an automated system, please indicate how many have access to and/or originate student special program information on-line at the SCHOOL OFFICE level? _____

3. How many computers at the DISTRICT office are used for recording and reporting student special programs information? _____

4. How many schools have classroom computers that are networked to computers in other classrooms or offices for recording and reporting student special programs information? _____

5. How many schools have central offices that are electronically connected to the district office for recording and reporting student special programs information? _____

6. Please list any agencies that your DISTRICT'S office computer system is electronically connected to for reporting student special programs information. _____

_____

Section IV: Student Demographics (e.g., gender, ethnicity)

1. How many schools in your DISTRICT use an automated (computer) system to collect, manage, and report student demographic information? _____

2a. Of the schools that have an automated system, please indicate how many have access to and/or originate student demographic information on-line at the CLASSROOM level? _____

2b. Of the schools that have an automated system, please indicate how many have access to and/or originate student demographic information on-line at the SCHOOL OFFICE level? _____

3. How many computers at the DISTRICT office are used for recording and reporting student special program information? _____

4. How many scools have classroom computers that are networked to computers in other classrooms or offices for recording and reporting student demographic information? _____

5. How many schools have central offices that are electronically connected to the district office for recording and reporting student demographic information? _____

6. Please list any agencies that your DISTRICT'S office computer system is electronically connected to for reporting student demographic information. _____

_____

A2

Section V: Software

What types of software and modules do your SCHOOLS and DISTRICT office use for student records management?

Y/N	Software	Application Modules
	HARTZ	
	COLUMBIA	
	SOCRATES	
	MACSCHOOL	
	SASSI	
	CIMSIII	
	Other:	
	Other:	

Section VI: Desktop Hardware

Workstation Type	Vendor/ Processor	Total # in District	# of PCs Networked	# of PCs not Networked but have capability
Apple/MAC				
DOS/PC (less than 386)				
DOS/PC (386 or greater)				
Terminals				
Other				

Section VII: Networks

DOS based LANs	#	Apple/MAC Based LANs	#	Wide Area Networking	#
Token Ring		AppleTalk		X.25 (or Dial up)	
Ethernet		PhoneNet		ARCNet11	
ARCNet		Other:		Other:	
Other:		Other:		Other:	
Other:		Other:		Other:	
Other:		Other:		Other:	

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B

APPENDIX

Data Elements and Training Survey

B1

Nevada Student Data Management Study

INSTRUCTIONS:

The attached questionnaire has five (5) sections. Please respond to all sections. However, if there is a section you do not understand, you may bypass that section. Information of the following nature is requested:

I. Respondent

II. Data Elements

III. Training

IV. Concerns/Problems

V. General Comments

Please mark the appropriate number on the accompanying scantron sheet to record your responses to the questions on the following pages.

I. RESPONDENT INFORMATION

NAME _____

1. AGENCY – (Where do you work?)
   1. School (Answer questions 3–6)
   2. Central Office (Answer questions 2, 4–6)
   3. Department of Education (Answer questions 5 and 6)
   4. Other (Answer questions 3–6)

2. CENTRAL OFFICE JOB CATEGORY

1. Superintendent's Office
2. School Board Member
3. Clerical/Secretary
4. Curriculum
5. Special Education
6. Business
7. Student Services
8. Federal Programs

3. JOB CATEGORY

1. Principals, Assistant Principals, Deans
2. Counselor

3. Registrar/Records Clerk
4. Secretary
5. Nurses/Health Aide
6. Attendance Clerk
7. Teacher
8. Special Education Facilitator
9. Other

4. GRADE LEVEL

1. Elementary
2. Middle School/Junior High
3. Secondary
4. Districtwide

5. LENGTH OF TIME IN THIS POSITION

1. 0–2 years
2. 3–5 years
3. 6–15 years
4. 15 or more years

6. NUMBER OF STUDENTS IN YOUR SCHOOL DISTRICT

1. 1–5,000
2. 5,001–20,000
3. 20,001–50,000
4. Over 50,000

II. DATA ELEMENTS

Listed below are several items commonly found in student records. At the top of each page are headings that refer to the items. Please mark all the numbers that apply to the items on your scantron sheet.

If you are not familiar with an item, do not mark any of the numbers for that item.

	Use of the information in your position				Distribution of information in your position					
	1 This information is not used	2 This information is important	3 This information is managed electronically	4 This information is needed but not currently available	5 Federal and State Dept. of Ed.	6 Other Agencies	7 Your District Office	8 Other School Districts	9 Other Schools in Your District	10 Parents
Student Personal Characteristics/Demographics										
7. Legal Name	1	2	3	4	5	6	7	8	9	10
8. Gender	1	2	3	4	5	6	7	8	9	10
9. Ethnicity	1	2	3	4	5	6	7	8	9	10
10. Birth Date	1	2	3	4	5	6	7	8	9	10
11. Place of Birth	1	2	3	4	5	6	7	8	9	10
12. Citizenship	1	2	3	4	5	6	7	8	9	10
13. Social Security Number	1	2	3	4	5	6	7	8	9	10
14. Student Identification Number	1	2	3	4	5	6	7	8	9	10
15. Handicapping Condition	1	2	3	4	5	6	7	8	9	10
16. Second Language Consideration (e.g., ESL, LEP, SLP)	1	2	3	4	5	6	7	8	9	10
Family/Residence										
17. Parent/Guardian Name	1	2	3	4	5	6	7	8	9	10
18. Employment/Occupation	1	2	3	4	5	6	7	8	9	10
19. Residence Data	1	2	3	4	5	6	7	8	9	10
20. Number of Siblings	1	2	3	4	5	6	7	8	9	10
21. Parental Marital Status	1	2	3	4	5	6	7	8	9	10
22. Family Income	1	2	3	4	5	6	7	8	9	10
23. Public Assistance	1	2	3	4	5	6	7	8	9	10
24. Migrant Status	1	2	3	4	5	6	7	8	9	10

II. DATA ELEMENTS

Listed below are several items commonly found in student records. At the top of each page are headings that refer to the items. Please mark all the numbers that apply to the items on your scantron sheet.

If you are not familiar with an item, do not mark any of the numbers for that item.

	Use of the information in your position				Distribution of information in your position					
	This information is not used	This information is important	This information is managed electronically	This information is needed but not currently available	Federal and State Dept. of Ed.	Other Agencies	Your District Office	Other School Districts	Other Schools in Your District	Parents
	1	2	3	4	5	6	7	8	9	10
Medical Information										
25. Medical History	1	2	3	4	5	6	7	8	9	10
26. Physical, Health and Sensory Impairments	1	2	3	4	5	6	7	8	9	10
27. Speech/Language Conditions	1	2	3	4	5	6	7	8	9	10
28. Immunization Records	1	2	3	4	5	6	7	8	9	10
29. Emergency Information	1	2	3	4	5	6	7	8	9	10
Special Programs										
30. Migrant Program Participation	1	2	3	4	5	6	7	8	9	10
31. Chapter 1 Program Participation	1	2	3	4	5	6	7	8	9	10
32. Special Needs	1	2	3	4	5	6	7	8	9	10
33. Academically Talented/Gifted	1	2	3	4	5	6	7	8	9	10
34. Other Special Services Participation	1	2	3	4	5	6	7	8	9	10
Enrollment/Attendance										
35. Enrollment Date/Date of Entry	1	2	3	4	5	6	7	8	9	10
36. Grade Enrollment	1	2	3	4	5	6	7	8	9	10
37. Special Program	1	2	3	4	5	6	7	8	9	10
38. Grade Placement	1	2	3	4	5	6	7	8	9	10
39. Previous School Attended	1	2	3	4	5	6	7	8	9	10
40. Early Childhood	1	2	3	4	5	6	7	8	9	10

B4

II. DATA ELEMENTS

Listed below are several items commonly found in student records. At the top of each page are headings that refer to the items. Please mark all the numbers that apply to the items on your scantron sheet.

If you are not familiar with an item, do not mark any of the numbers for that item.

	Use of the information in your position				Distribution of information in your position					
	This information is not used	This information is important	This information is managed electronically	This information is needed but not currently available	Federal and State Dept. of Ed.	Other Agencies	Your District Office	Other School Districts	Other Schools in Your District	Parents
	1	2	3	4	5	6	7	8	9	10
41. Home School	1	2	3	4	5	6	7	8	9	10
42. Alternative Program	1	2	3	4	5	6	7	8	9	10
43. Court School	1	2	3	4	5	6	7	8	9	10
44. Home Bound	1	2	3	4	5	6	7	8	9	10
45. Home Study	1	2	3	4	5	6	7	8	9	10
46. Adult High School	1	2	3	4	5	6	7	8	9	10
47. Withdrawal Information	1	2	3	4	5	6	7	8	9	10
48. Dropout Information	1	2	3	4	5	6	7	8	9	10
49. Membership and Attendance Information	1	2	3	4	5	6	7	8	9	10
Academic Information										
50. Course/Class Information	1	2	3	4	5	6	7	8	9	10
51. Grades/Grade Point Average	1	2	3	4	5	6	7	8	9	10
52. Cumulative Earned Credits	1	2	3	4	5	6	7	8	9	10
53. Progress Information (Promotion & Retention)	1	2	3	4	5	6	7	8	9	10
54. Standardized Test Scores	1	2	3	4	5	6	7	8	9	10
55. Proficiency Test	1	2	3	4	5	6	7	8	9	10
56. Athletic Eligibility	1	2	3	4	5	6	7	8	9	10
57. Graduation/High School Completion (ENS)	1	2	3	4	5	6	7	8	9	10

II. DATA ELEMENTS

Listed below are several items commonly found in student records. At the top of each page are headings that refer to the items. Please mark all the numbers that apply to the items on your scantron sheet.

If you are not familiar with an item, do not mark any of the numbers for that item.

	Use of the information in your position				Distribution of information in your position					
	This information is not used	This information is important	This information is managed electronically	This information is needed but not currently available	Federal and State Dept. of Ed.	Other Agencies	Your District Office	Other School Districts	Other Schools in Your District	Parents
	1	2	3	4	5	6	7	8	9	10
58. Honors Program	1	2	3	4	5	6	7	8	9	10
59. Disciplinary Action	1	2	3	4	5	6	7	8	9	10
60. Transcript Requests	1	2	3	4	5	6	7	8	9	10
61. Counselor Name	1	2	3	4	5	6	7	8	9	10
Transportation										
62. Bus Route	1	2	3	4	5	6	7	8	9	10
63. Distance Transported	1	2	3	4	5	6	7	8	9	10

B6

III. TRAINING

Please mark the numbers that apply to the following items regarding the software applications and hardware used at your school or school district site.

A. Word Processing

Creating letters, memos, and reports.

64. Currently Used:
    1. Yes
    2. No
    3. Not Familiar
    4. Not Applicable
65. Needed but Not Available
    1. Yes
    2. No

66. Important to My Job

1. Low
2. Medium
3. High

B. Spreadsheet

Perform and report arithmetic calculations.

68. Currently Used:

1. Yes
2. No
3. Not Familiar
4. Not Applicable

69. Needed but Not Available:

1. Yes
2. No

70. Importance in My Job:

1. Low
2. Medium
3. High

71. My Proficiency Level:

1. Low
2. Medium
3. High

B7

72. Currently Used:

1. Yes
2. No
3. Not Familiar
4. Not Applicable

73. Needed but Not Available:

1. Yes
2. No

C. Database Management/Statistical Analysis

Create, use, and transfer data for special studies, statistical analysis, and other projects.

74. Importance in My Job:

1. Low
2. Medium
3. High

75. My Proficiency Level:

1. Low
2. Medium
3. High

D. Student Information System

76. Does your district use a computerized student information system:

1. Don't Know

2. No, but it is needed
3. No, but it is not needed
4. Yes

77. Needed but Not Available:
1. Yes
2. No

78. Currently Used:
1. Yes
2. No
3. Not Familiar
4. Not Applicable

79. Importance in My Job:
1. Low
2. Medium
3. High

80. My Proficiency Level:
1. Low
2. Medium
3. High

81. I Need Training at This Level:
1. Introductory
2. Intermediate
3. Advanced

E. Electronic Mail

Send and receive written messages, notes, letters, documents electronically.

82. Currently Used:
1. Yes
2. No
3. Not Familiar
4. Not Applicable

83. Needed but Not Available:
1. Yes
2. No

84. Importance in My Job:
1. Low
2. Medium
3. High

85. My Proficiency Level:
1. Low
2. Medium
3. High

F. Network

Computers or terminals connected to a network.

86. Currently Used:
1. Yes

2. No
3. Not Familiar
4. Not Applicable

87. Needed but Not Available:
    1. Yes
    2. No
88. Importance in My Job:
    1. Low
    2. Medium
    3. High
89. My Proficiency Level:
    1. Low
    2. Medium
    3. High

G. Image Processing

Use computers for scanning, facsimile, optical disk storage, etc.

90. Currently Used:
    1. Yes
    2. No
    3. Not Familiar
    4. Not Applicable
91. Needed but Not Available:
    1. Yes
    2. No
92. Importance in My Job:
    1. Low
    2. Medium
    3. High
93. My Proficiency Level:
    1. Low
    2. Medium
    3. High

H. Satellite Reception (Downlink)

Availability of satellite equipment for training opportunities.

94. Currently Used:
    1. Yes
    2. No
    3. Not Familiar
    4. Not Applicable
95. Needed but Not Available:
    1. Yes
    2. No
96. Importance in My Job:
    1. Low
    2. Medium
    3. High

97. My Proficiency Level:
    1. Low
    2. Medium
    3. High

IV. CONCERNS/PROBLEMS

98. What problems do you experience related to information and communication needs in student and program management. Please mark the all the areas which you feel are of concern.
    1. Access to information
    2. Access to equipment
    3. Timeliness of information
    4. Lack of awareness
    5. Lack of training
    6. Accuracy of information
    7. Usefulness of information
    8. Confidentiality/security
    9. Duplication of effort or information

V. GENERAL COMMENTS

If you have any further comments, please indicate them below.

B10

C

APPENDIX

Projected Annual Redirection of Time

Technology	*Principals*	*Teachers*	*Counselors*	*Clerical*
On-Line Student Information System	X	X	X	X
Electronic Transfer of Information	X	X	X	X
Computer on Desk	X	X	X	X
ADA Electronically		X	X	X
Calc GPA & Test Scores	X	X	X	
Teachers in Classroom		X		
Standard Format of Student Information	X	X	X	X
Training	X	X	X	X
Redirected Time/Day	1	.5	1	1
Number of Staff	532	12,395	504	600
Days Worked Annually	210	182	187	220
Average Hourly Rate	$40	$23	$28	$11
Total Redirected Hours Annually	111,720	1,127,945	94,248	132,000
Annual Value of Redirected Time	**$4,468,800**	**$25,942,735**	**$2,638,944**	**$1,452,000**

Total Annual Hours **1,465,913**

Total Annual Value **$34,502,479**

C1

D

APPENDIX

School Models:

These school site models were designed based upon the study team's definition of the number of computer access workstations needed by administrators, teachers, and staff to maintain a student information management system. The team believes this is an accurate representation of staffing level computer access in relation to school population/level in the State of Nevada. Although there may be an occasional variance, the figures will not be significantly skewed.

School Model	Composition of Workstations
Model #1 Elementary Level 0-600 Students	Principal Secretary Teacher's Workstation
Model #2 Secondary Level 0-600 Students	Principal Vice Principal Secretary Counselor Counselor's Secretary Teachers' Workstations (2)
Model #3 Elementary Level 600-1,000 Students	Principal Vice Principal Secretaries (2) Counselor Counselor's Secretary Teachers' Workstations (2)
Model #4 Secondary Level 600-1,000 Students	Principal Vice Principals (2) Secretaries (2) Counselors (2) Counselor's Secretary Teachers' Workstations (3)
Model #5 Elementary Level 1,000+ Students	Number of units are the same as Model #4, however, a counselor or teacher terminal may be substituted for a school nurse terminal.
Model #6 Secondary School 1,000+ Students	Principal Vice Principals (3) Dean Secretary Attendance Secretary Registration Secretary Counselors (3) Counselor's Secretaries (2) Teachers' Workstations (4)

D1

District Models:

These district site models were designed based upon the study team's definition of the number of computer access workstations needed by administrators, teachers, and staff to maintain a student information management system based upon district size. While there may be a variance occasionally, the team felt this was an accurate representation of staffing level computer access in relation to district size in the State of Nevada.

School Model	Composition of Workstations
District Model #1	
0–2,000 Students 0–8 Schools	Superintendent Secretary Workstation (1)
District Model #2	
2,000–10,000 Students More than 8 Schools	Superintendent Assistant Superintendent Director–Special Services Director of Instruction Director–Secondary Level Education Director–Elementary Education Secretaries (4)
District Model #3	
More than 10,000 Students More than 8 Schools	Superintendent Superintendent-Student Services Superintendent–Secondary Level Ed. Superintendent–Elementary Education Secretaries (4) Confidential Records (3) Student Accounting (3)

D2

Nevada Department of Education:

One workstation is provided for each branch that collects, manages, analyzes, and/or reports student record information.

Model	Composition of Workstations
Nevada Department of Education	Superintendent Fiscal Elementary and Secondary Education Federal Programs Nutrition Planning, Research, and Evaluation Special Education Occupational Education

CONFIGURATION MODELS

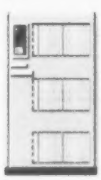
D3

Component Glossary

Generic workstation with standard hard drive

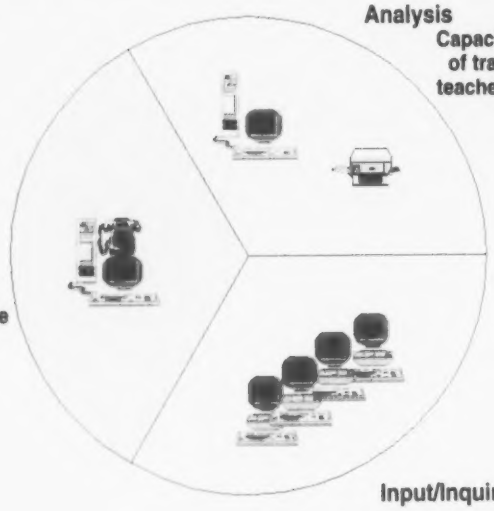
File Server

Communications Server



Generic Mini or Main Frame System

Base School Model



Analysis

Capacity depends upon volume of transactions and student/ teacher/administration count

Communications

Port capacity and modem counts depend upon volume of transactions

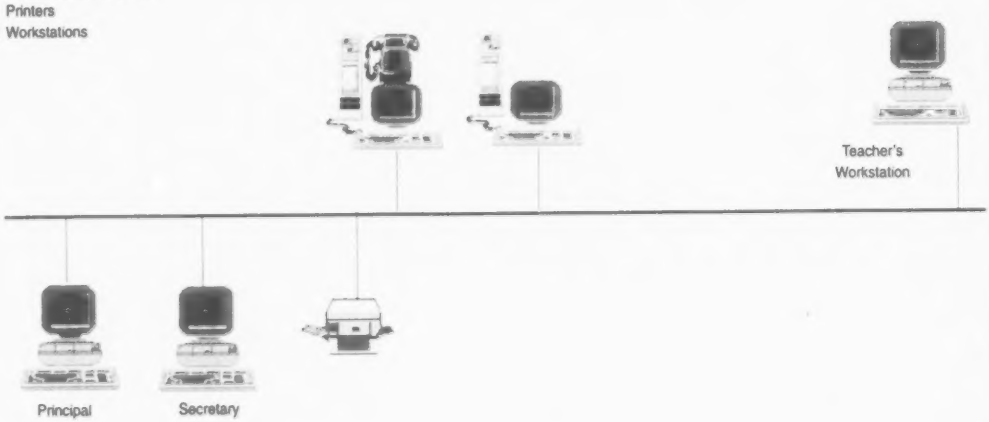
Input/Inquiry

Number of stations are based upon teacher and administration count.

D4

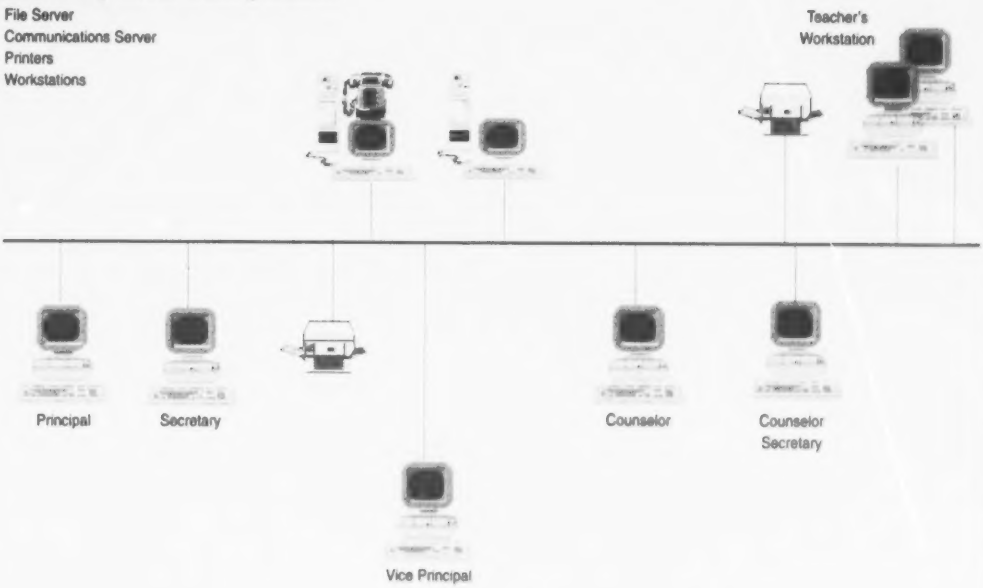
School Model # 1
0 - 600 Students
Elementary Level Configuration

1 File Server
1 Communications Server
1 Printers
3 Workstations



School Model #2
0 - 600 Students
Secondary Level Configuration

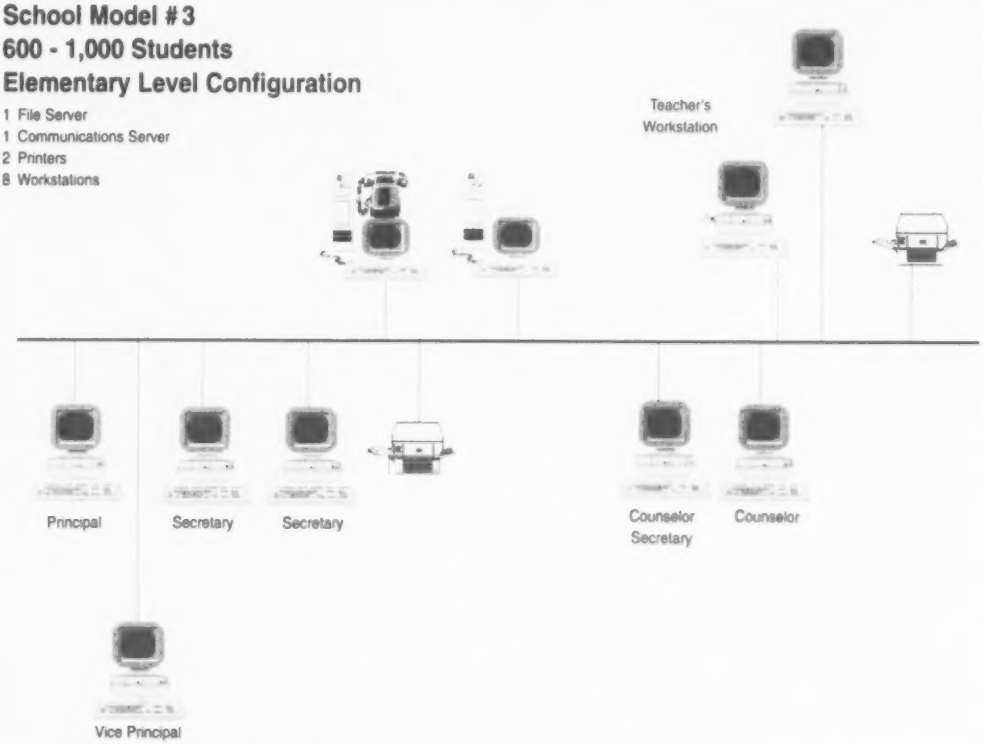
1 File Server
1 Communications Server
2 Printers
7 Workstations



D5

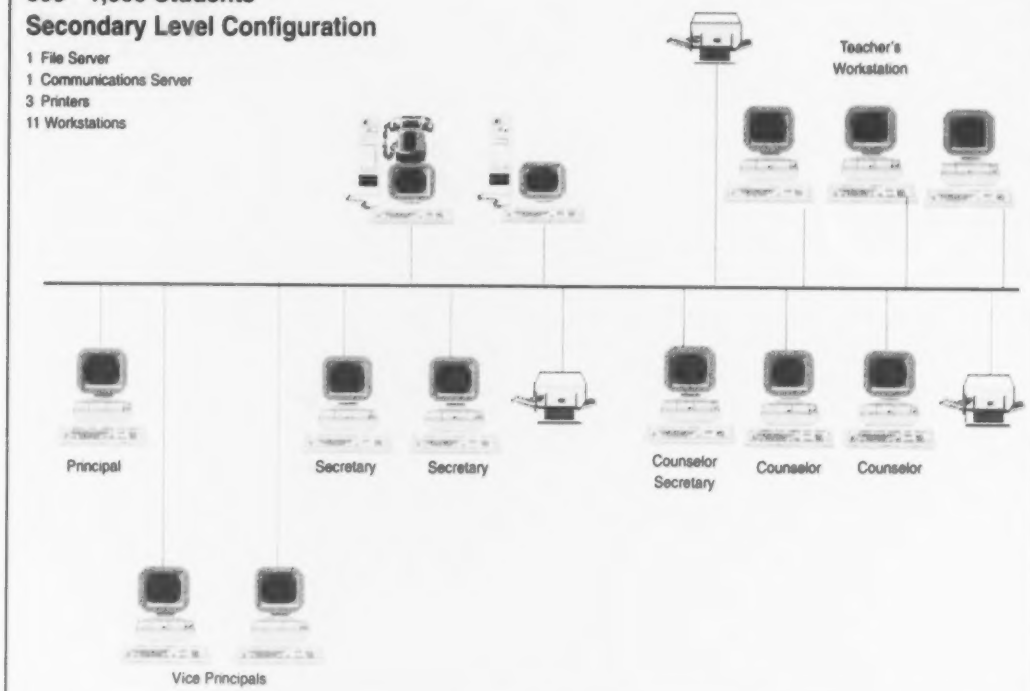
School Model #3
600 - 1,000 Students
Elementary Level Configuration

1 File Server
1 Communications Server
2 Printers
8 Workstations



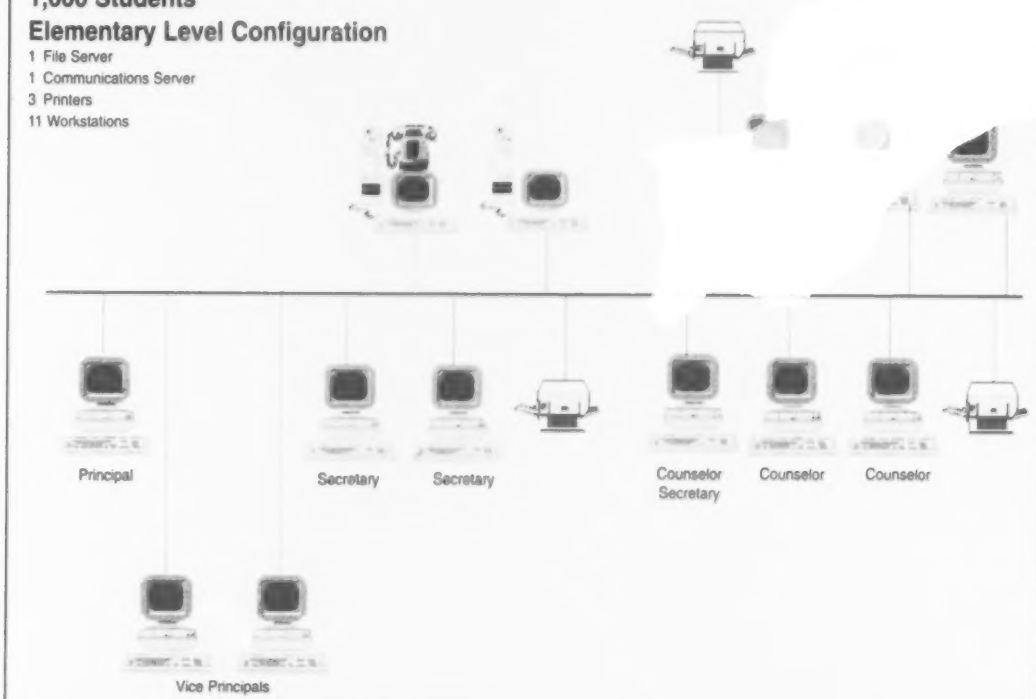
School Model #4
600 - 1,000 Students
Secondary Level Configuration

1 File Server
1 Communications Server
3 Printers
11 Workstations



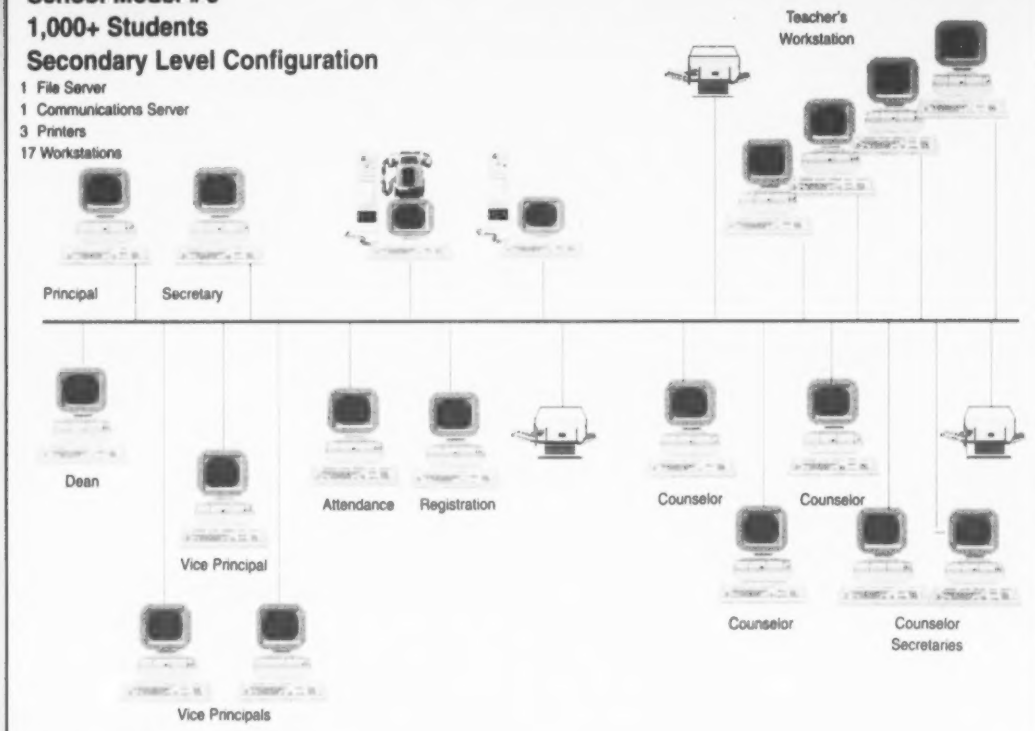
School Model #5
1,000 Students
Elementary Level Configuration

1 File Server
1 Communications Server
3 Printers
11 Workstations

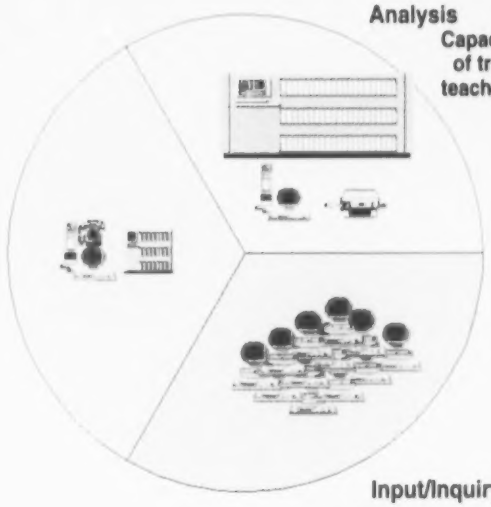


School Model #6
1,000+ Students
Secondary Level Configuration

1 File Server
1 Communications Server
3 Printers
17 Workstations



Base District Model



Analysis

Capacity depends upon volume of transactions and student/ teacher/administration count

Communications

Input/Inquiry

Number of stations are based upon teacher and administration count.

D8

District Model # 1

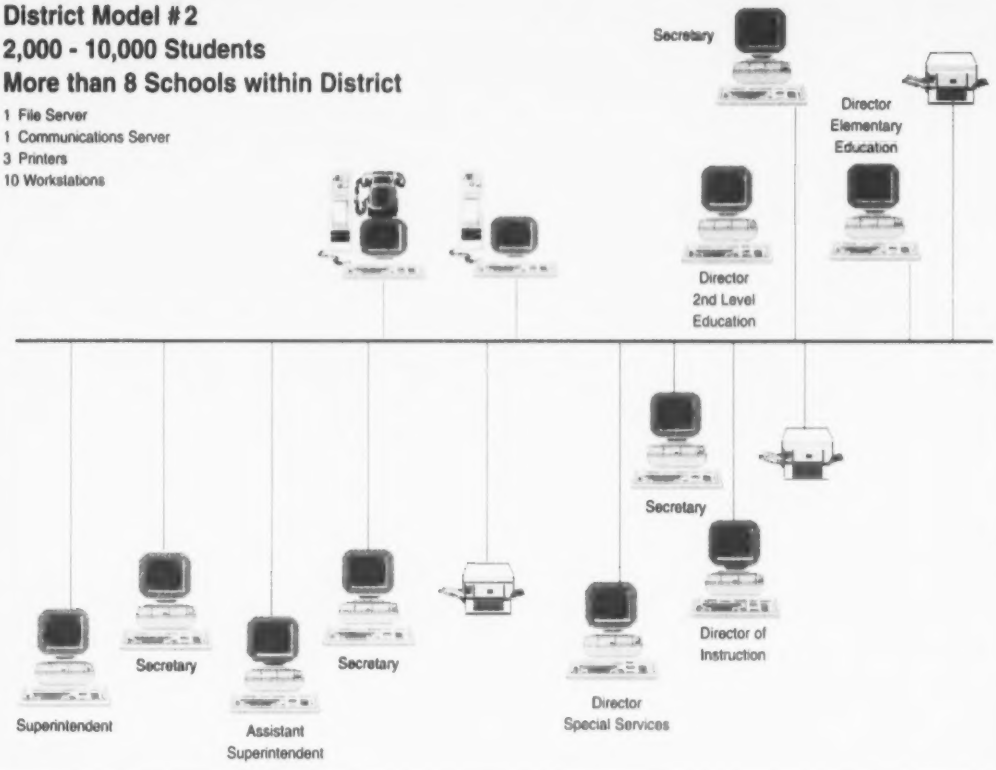
0 - 2,000 Students

0 - 8 Schools

1 File Server
1 Communications Server
1 Printers
3 Workstations

District Model #2
2,000 - 10,000 Students
More than 8 Schools within District

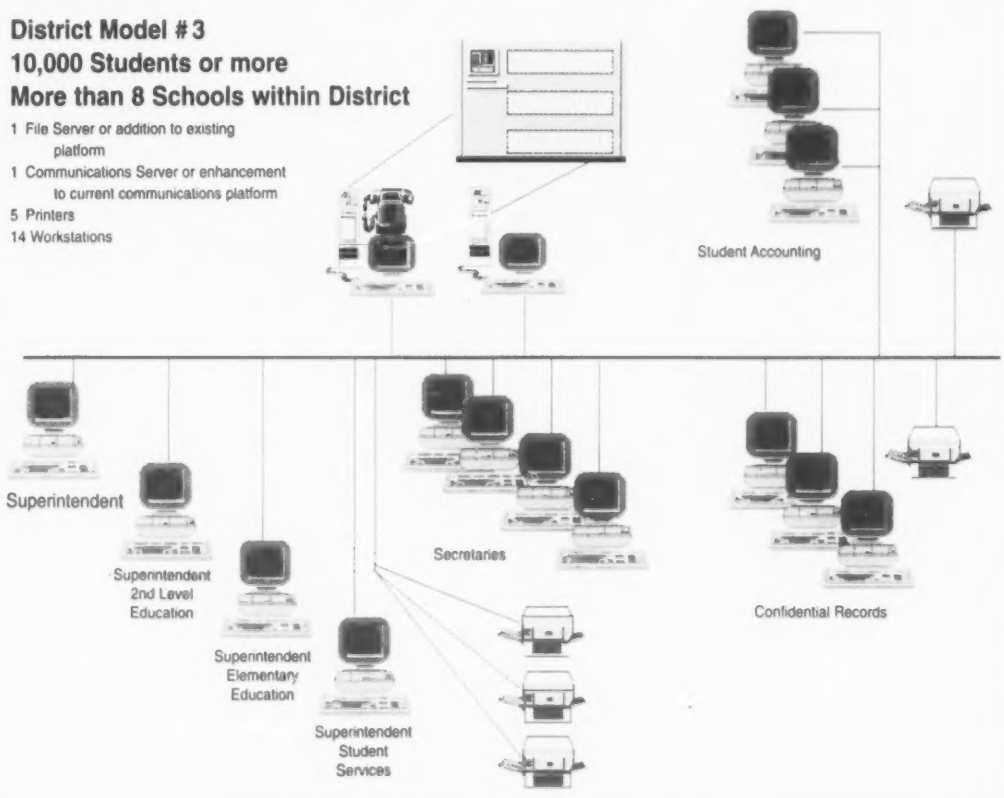
1 File Server
1 Communications Server
3 Printers
10 Workstations



D9

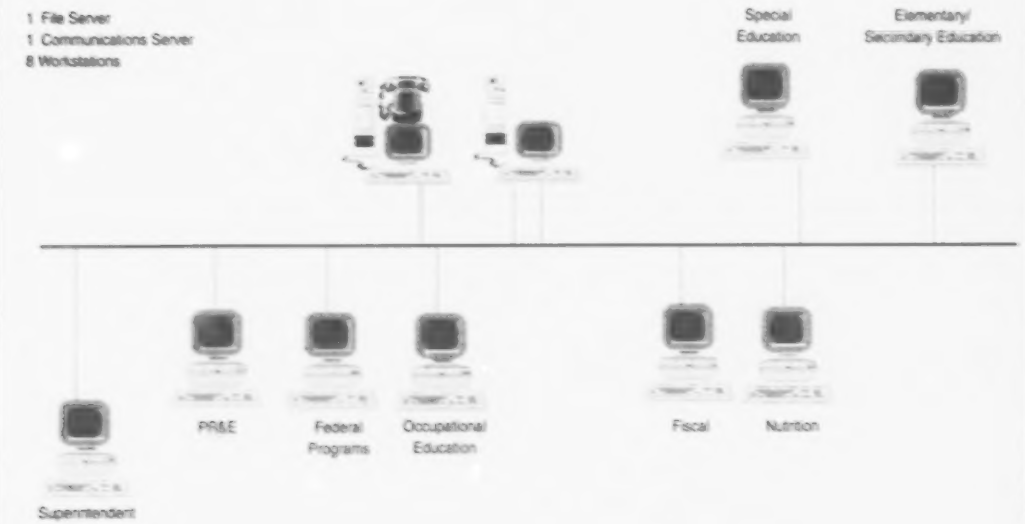
District Model #3
10,000 Students or more
More than 8 Schools within District

1 File Server or addition to existing platform
1 Communications Server or enhancement to current communications platform
5 Printers
14 Workstations



Nevada Department of Education Model

1 File Server
1 Communications Server
8 Workstations



E

APPENDIX

TOTAL COST FOR SCHOOL DISTRICT TECHNOLOGY

DISTRICT	DISTRICT OFFICE COST	SCHOOL COST	TOTAL COST
Carson	63,232	389,721	452,953
Churchill	37,749	283,900	321,649
Clark	285,919	7,770,466	8,056,385
Douglas	63,232	422,965	486,197
Elko	285,919	886,895	1,172,814
Esmeralda	37,749	87,366	125,115
Eureka	37,749	96,011	133,760
Humboldt	63,232	437,023	500,255
Lander	37,749	200,667	238,416
Lincoln	37,749	267,556	305,305
Lyon	63,232	439,101	502,333
Mineral	37,749	138,015	175,764
Nye	63,232	517,822	581,054
Pershing	37,749	133,778	171,527
Storey	37,749	133,778	171,527
Washoe	285,919	2,765,198	3,051,117
White Pine	37,749	267,556	305,305
TOTAL	**$1,513,658**	**$15,237,818**	**$16,751,476**

E1

DISTRICT OFFICE COST

DISTRICT OFFICE MODEL	DISTRICT	DESCRIPTION
Model #1	This model is designed for districts with up to 2,000 students and 8 schools. The estimated cost is $37,749 per district.	Churchill Esmeralda Eureka Lander Lincoln Mineral Pershing Storey White Pine
Model #2	This model is designed for districts with 2,000 to 10,000 students and more than 8 schools. The estimated cost is $63,232 per district.	Carson Douglas Humboldt Lyon Nye
Model #3	This model is designed for districts with at least 10,000 students and more than 8 schools. The estimated cost is $285,919 per district.	Clark Elko Washoe

E2

DISTRICT OFFICE MODELS COMPONENTS
MINIMUM CONFIGURATION

COMPONENT	BASE PRICE	MODEL #1 UNIT	MODEL #1 COST	MODEL #2 UNIT	MODEL #2 COST	MODEL #3 UNIT	MODEL #3 COST
PC-486/25 (212 MB HD)	1,000	1	1,000	1	1,000	1	1,000
PC-486/25 (0 MB HD)	710	1	710	1	710	1	710
PC-486/25 (120 MB HD)	895	3	2,685	10	8,950	14	12,530
1 GB HD	1,515	1	1,515	2	3,030	5	7,575
4MB RAM	215	7	1,505	14	3,010	22	4,730
Monitor	415	5	2,075	12	4,980	16	6,640
Modem	215	3	645	5	1,075	10	2,150
LANet Adapter Card (10BT)	87	6	522	15	1,305	21	1,827
Student Information System	10,000	1	10,000	1	10,000	1	10,000
Interface Software	5,000	1	5,000	1	5,000	1	5,000
Portability Software	2,000	1	2,000	1	2,000	1	2,000
Communications Software	100	3	300	5	500	10	1,000
EDI Translation/ Conversion Software	2,000	1	2,000	1	2,000	1	2,000
Novell NOS (10User)	1,497	1	1,497		0		0
Novell NOS (25 User)	2,217		0	1	2,217	1	2,217
Generic Panel (8 Ports)	1,850	1	1,850	1	1,850		0
Generic Panel (16 Ports)	2,495		0	1	2,495	2	4,990
UTP/STP Cable Run	75	6	450	15	1,125	21	1,575
Routers	2,000		0		0	100	200,000
LaserPrinter	3,995	1	3,995	3	11,985	5	19,975
TOTALS			**$37,749**		**$63,232**		**$285,919**

E3

SCHOOLS COST

	NUMBER OF SCHOOLS						
	0 - 600 Students		600 - 1000 Students		1000+ Students		
DISTRICT	ELEMENTARY MODEL # 1 $39,122 PER SCHOOL	SECONDARY MODEL # 2 $37,767 PER SCHOOL	ELEMENTARY MODEL # 3 $42,004 PER SCHOOL	SECONDARY MODEL # 4 $47,577 PER SCHOOL	ELEMENTARY MODEL # 5 $49,407 PER SCHOOL	SECONDARY MODEL # 6 $64,949 PER SCHOOL	TOTAL SCHOOL COST
Carson	5	0	2	2	0	1	389,721
Churchill	3	0	2	1	0	1	283,900
Clark	64	18	64	10	1	31	7,770,466
Douglas	1	3	4	1	0	1	422,965
Elko	14	4	4	2	0	1	886,895
Esmeralda	3	0	0	0	0	0	87,366
Eureka	2	1	0	0	0	0	96,011
Humboldt	9	1	1	2	0	0	437,023
Lander	3	3	0	0	0	0	200,667
Lincoln	4	4	0	0	0	0	267,556
Lyon	6	7	0	0	0	0	439,101
Mineral	2	1	1	0	0	0	138,015
Nye	10	6	0	0	0	0	517,822
Pershing	2	2	0	0	0	0	133,778
Storey	2	2	0	0	0	0	133,778
Washoe	37	7	14	8	0	7	2,765,198
White Pine	4	4	0	0	0	0	267,556
Total	**171**	**63**	**92**	**26**	**1**	**42**	**$15,237,818**

E4

SCHOOL MODELS COMPONENTS
MINIMUM CONFIGURATION

COMPONENT	BASE COST	MODEL #1 UNIT	MODEL #1 COST	MODEL #2 UNIT	MODEL #2 COST
PC-486/25 (0 MB HD)	710	1	710	1	710
PC-486/25 (120 MB HD)	895	4	3,580	8	7,160
527 MB HD	925	1	925		0
1 GB HD	1,515		0	1	1,515
4MB RAM	215	6	1,290	10	2,150
Monitor	415	5	2,075	9	3,735
Modem	215	1	215	1	215
LANet Adapter Card (10BT)	87	5	435	10	870
Student Information System	10,000	1	10,000	1	10,000
Portability Software	2,000	1	2,000	1	2,000
Communications Software	100	1	100	1	100
Novell NOS (10 User)	1,497	1	1,497	1	1,497
Novell NOS (25 User)	2,217		0		0
Generic Panel (8 Ports)	1,850	1	1,850		0
Generic Panel (16 Ports)	2,495		0	1	2,495
UTP/STP Cable Run	75	6	450	11	825
InkJet Printer	500		0	1	500
LaserPrinter	3,995	1	3,995	1	3,995
TOTALS			**$29,122**		**$37,767**

E5

MODEL #3		MODEL #4		MODEL #5		MODEL #6	
UNIT	COST	UNIT	COST	UNIT	COST	UNIT	COST
1	710	1	710	1	710	1	710
9	8,055	12	10,740	12	10,740	18	16,110
	0		0		0		0
2	3,030	2	3,030	3	4,545	3	4,545
11	2,365	14	3,010	14	3,010	20	4,300
10	4,150	13	5,395	13	5,395	19	7,885
2	430	2	430	3	645	3	645
11	957	15	1,305	15	1,305	21	1,827
1	10,000	1	10,000	1	10,000	1	10,000
1	2,000	1	2,000	1	2,000	1	2,000
2	200	2	200	3	300	3	300
	0		0		0		0
1	2,217	1	2,217	1	2,217	1	2,217
	0		0		0	1	1,850
1	2,495	1	2,495	1	2,495	1	2,495
12	900	14	1,050	14	1,050	21	1,575
1	500	2	1,000	2	1,000	1	500
1	3,995	1	3,995	1	3,995	2	7,990
	$42,004		**$47,577**		**$49,407**		**$64,949**

E6

NDE COMPONENTS
MINIMUM CONFIGURATION

COMPONENTS	BASE COST	UNIT	COST
PC-486/25 (0 MB HD)	710	1	710
PC-486/25 (120 MB HD)	895	9	8,055
1 GB HD	1,515	2	3,030
4MB RAM	215	11	2,365
Monitor	415	10	4,150
Modem	215	2	430
LANet Adapter Card (10BT)	87	9	783
Relational Database Software	5,000	1	5,000
Analysis Software	400	1	400
EDI Transmission/Conversion Software	2,000	1	2,000
Portability Software	2,000	1	2,000
Communications Software	100	2	200
Novell NOS (25 User)	2,217	1	2,217
Generic Panel (16 Ports)	2,495	1	2,495
UTP/STP Cable Run	75	10	750
TOTALS			**$34,585**

F

APPENDIX

TRAINING

F1

Personnel Categories:

1. Technical Staff
2. District Administration
3. Site Administrators
4. District Clerical/Specialists
5. Site Clerical/Specialists
6. Teachers

Awareness:

Introduction for those viewing a video tape on automated student information system projects. A timeline for phases of implementation and of software which is available to use with an automated system. This level of training would be made available through video tapes to be presented on site.

Introductory:

Specific instruction to help personnel understand capabilities of student information system projects. Training does not require specific user skills. The training would be provided through video tapes and personal presentations. The estimated timeframe is two hours for each category.

Intermediate:

Specific instruction to provide the staff user with skills including data input, basic query, and report generation. These classes will provide information to building level staff to use systems. The training would be provided in approximately five hours and could be accomplished in a minimum day format. The estimated timeframe of training on student information system projects will total 12-15 hours. After initial training, the user would have the opportunity to use the system at his or her work site, returning for additional training to refine skills and answer questions resulting from use of the system.

Advanced:

High level of technology instruction will enable staff to perfect application skills, including input and modification of data, data access, processing of data, and advanced query report generation. This training is designed for district level and building site specialists. The training would take approximately 6-10 hours. Some introductory or intermediate training may be required before this level of training.

On-going:

Provided for identified staff as part of pre-service training, cross training, retraining, or upgrading skills.

Specialized Training:

Instruction in sophisticated ad-hoc reporting which will enable site and district administrative staff to develop capabilities in on-site sorting, reporting of needed student information, graduation requirements, board requested information, etc. These classes would be more lengthy, depending on need, and could be as long as a week.

Training Locations:

Will be made available in the following formats:

1) On location regional training sites.

2) Mobile regional training sites.

3) Training delivered through available remote access technology where available.

The following table outlines the type of training that should be provided to various school and district staff members.

Training Matrix

	TECHN STAFF	DISTRICT ADMIN	SITE ADMIN	DISTRICT CLER/SPC	SITE CLER/SPC	TEACHERS
AWARENESS (On site video 30-45 minutes)	X	X	X	X	X	X
INTRODUCTION (On site video and personal presentations 1-2 hrs.)						
Workstation Introduction, Basic System Operations Overview, Mainframe Orientation, Backup, Security/ Confidentiality	X	X	X	X	X	X
Introduction to Personal Productive Tools; Word Processing, Electronic Mail, Spreadsheets	X	X	X	X	X	
Introduction to Student Information System	X	X	X	X	X	X
INTERMEDIATE Student Management	X	+			X	
Student Scheduling	X		X		X	X
Student Grading	X				X	X
Student Attendance	X			X	X	
Ad Hoc Reporting	X	X	X	X	X	+
Personal Productivity Tools: Word Processing, Spread sheet, Electronic mail, Electronic Calendar	X	X	X	X	X	X
Application of Networking	X	X	X	X	X	X
System Hardware/Software Installation Management-Software Installation Vendor	X	+	+	X	X	+

F2

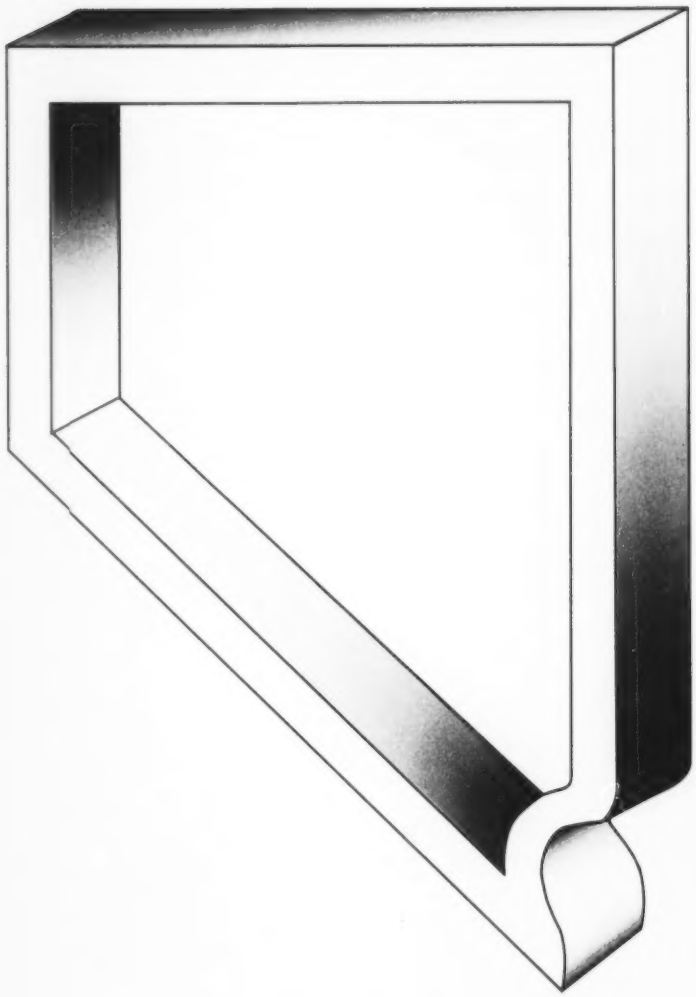
	TECHN STAFF	DISTRICT ADMIN	SITE ADMIN	DISTRICT CLER/SPC	SITE CLER/SPC	TEACHERS
ADVANCED						
Advanced Student Management	X	+	+	+	X	+
Advanced Student Scheduling	X	+	+	+	X	+
Advanced Student Attendance	X	+	+	+	X	+
Advanced Ad Hoc Reporting	X	+	X	+	X	
Advanced Personal Productivity Tools: Word Processing, Spreadsheet, Electronic Mail, Electronic Calendar	X	+	+	X	X	+
Advanced Networking Applications	X	+	+	+	+	+
Desktop Publishing	X	+	+	+	+	+
Data Conversation for Transfer	X	+	+	X	X	+
SPECIALIZED TRAINING						
Ad Hoc Reporting	X	X	X	X	X	X
Test Data	X	+	X	X	X	+
Utilities Maintenance/Back Up	X	+	+	X	X	+

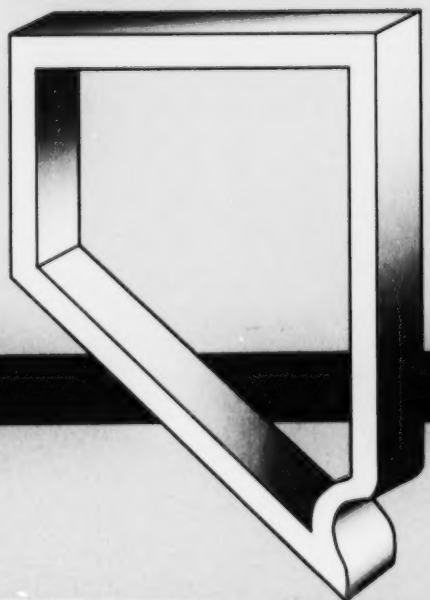
F3

X – Required training unless the user can demonstrate that necessary skills have been acquired or are not needed for specific job description. The expectation is that prior to installation of equipment, the user will have completed the appropriate introductory courses.

+ – Optional training. Some of this training could be obtained through approved inservice classes.

F4





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